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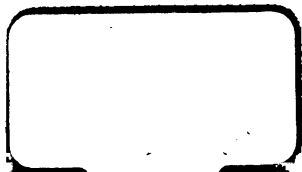
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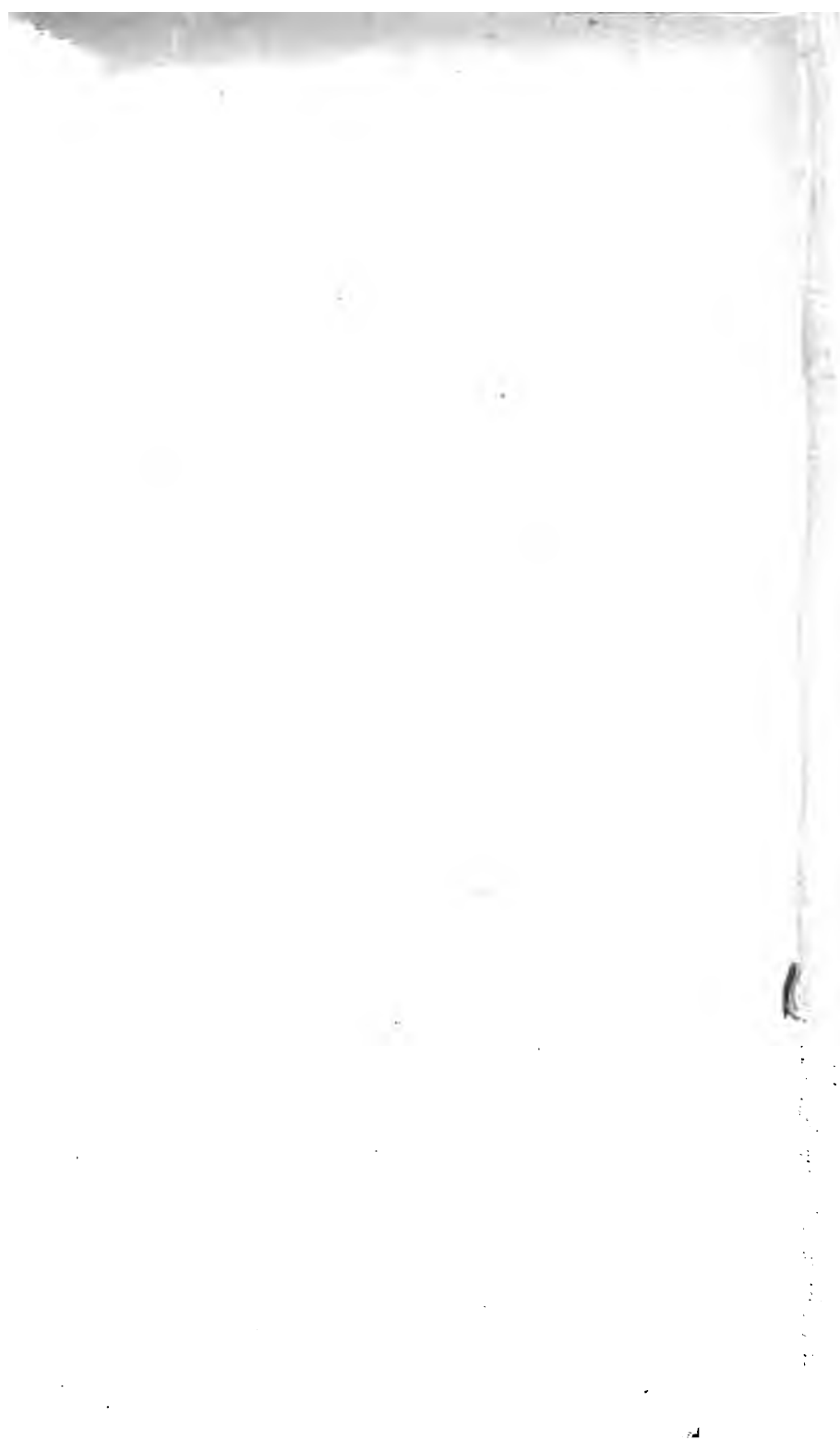
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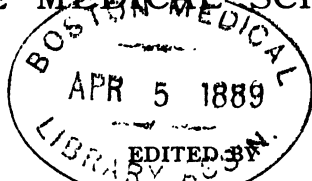




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ARTHUR FOXWELL, B.A., M.B. CANTAB.,
AND
JORDAN LLOYD, M.B., F.R.C.S.

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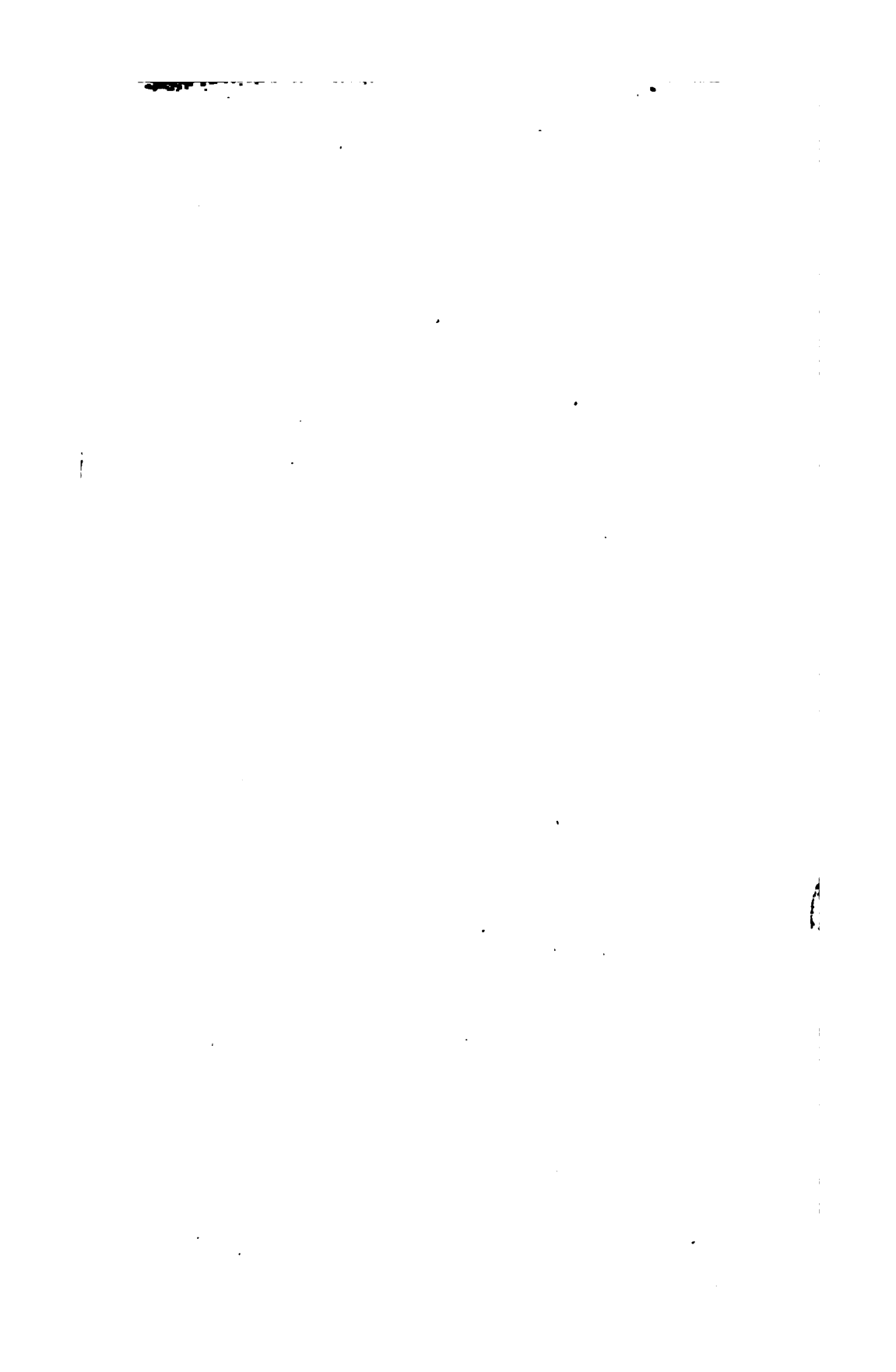
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it probable that many stones in boys will, in the future, have to be dealt with by litholopaxy ; setting aside these, however, there still remain a large number for the cure of which the profession is not yet unanimous in its opinion as to the best procedure. There are three claimants in the field at least : lateral, median, and suprapubic lithotomy. My own experience suggests that to each might legitimately be allotted a share of the residuum. To the lateral operation I would assign stones of moderate size, which are very hard or multiple ; and those cases complicated by advanced kidney disorder, or by stricture. To median lithotomy, small stones in small children only, and the remainder, large stones, encysted stones, and stones associated with enlarged prostates to suprapubic lithotomy.

The six cases detailed at the end of this paper have occurred during the past 18 months : they do not include all my lithotomies for this period, and although I might not now elect to deal with the whole of them by the suprapubic incision, there were circumstances in each, at the time of operation, which led me to adopt it in preference to perineal lithotomy.

Suprapubic lithotomy was probably the first operation practised for the removal of a stone from the bladder. It has been revived, and has fallen into disuse again and again, and not until quite recent times has it ever taken a tight hold of the operating surgeon's fancy ; probably because its frequently-occurring wound of the peritoneum and injury to the pelvic connective tissue gave the operation a higher death-rate than attended incisions through the perineum. It was not until Peterssen, of Kiel, systematised a plan by which danger could be reduced to a minimum, if not altogether avoided, that the operation came seriously into competition with Cheselden's lateral lithotomy. Our countryman, Garson, demonstrated by experiment, several years ago, how the peritoneal reflection was lifted up from the pubes during combined rectal and vesical distension ; but no particular notice seems to have been taken of his observations. Whether Peterssen worked out the matter for himself or took advantage of Garson's publications there is no need to discuss,

it is quite certain that if he had not devised the procedure which carries his name, the present revival of suprapubic lithotomy would not have been seen. Sir Henry Thompson appreciated at once the value of Peterssen's work, and was the first to call attention to it in this country.

The anatomy of the suprapubic region offers a few points of importance, and from the fact that it is a locality to which the students' particular attention is not directed, these points are apt to be overlooked. The fat in this region is of considerable thickness, and often gives great depth to a wound before the muscular structures of the belly wall are reached. The pyramidalis muscles, springing from each side of the front of the pubes are seen as fleshy fibres, passing upwards and inwards, to be inserted into the linea alba between the symphysis and the umbilicus. They are not to be mistaken for the recti muscles; they lie superficial to the proper abdominal muscles. The linea alba forms a single layer in front of the recti muscles only, and must be divided before those muscles are seen. The recti here are tendinous in their lowest parts, and immediately behind them the fascia transversalis is found, and must be cut through before the subperitoneal fat is reached. The transversalis fascia, according to Harrison, divides opposite the top of the pubes into two layers, one of which is attached to the pubic rim, and the other passes backwards onto the posterior wall of the bladder. Large veins are found on the upper part of the front of the viscus, running more or less transversely towards the vesical plexuses at the sides of the organ. Between the bladder and the pubes is a loose layer of connective tissue, which is easily disturbed by fingering. The most important anatomical feature of all is the reflected fold of the peritoneum, passing from the abdominal parietes on to the posterior wall of the bladder. The level of this fold varies with age and with the condition of the bladder and rectum. In children, under all conditions of the viscera, it rarely descends into the pelvis, but in adults it sinks as far as one and a half inches below the top of the pubes when both the rectum and bladder are empty, and rises,

on the other hand, to a point from one and a half to three and a half inches above the bone when they are fully distended.

For suprapubic operation the patient is placed flat on his back, with the knees slightly bent over a pillow. The lower parts of abdomen, pubes, and genitals are thoroughly washed and shaved and the bladder emptied by catheter. A globular or sausage shaped india rubber bag, varying in capacity from 4 to 12 ounces according to age of patient, and furnished with a 12-inch long tube and stop cock, is emptied of air, lubricated thoroughly and introduced into the rectum. It facilitates this introduction if the skin around the anus is well oiled beforehand. The bag is now distended with fluid, according to its size. I consider this rectal bag an essential part of the operation. I am aware that some surgeons object to it because they regard it as dangerous to the rectal wall, but I have seen no harm attend its use. A sponge has been oftentimes employed instead of the bag, and two of my own operations were done without either. A gum elastic catheter is next passed into the bladder and warm boracic acid lotion injected until a slight resistance is felt by the syringing hand. The catheter is now withdrawn and a tape tied lightly round the penis. The quantity of fluid thrown into the bladder varies from 4 to 20 ounces. The distended organ may now be felt as a globular tumour above the pubes. It naturally follows that the more fluid we can introduce into the viscus, without in any way using force, the more will the organ rise in the belly, and the farther will the peritoneum be carried out of harm's way. An incision is made from the pubic level upwards in the middle line for 2 to 3½ inches. A variable thickness of fat is cut through, and the deep layer of the superficial fascia covering the pyramidalis muscles is seen. The interval between these muscles is found, and deepened until a dense layer of fascia, the linea alba proper is arrived at. When this is divided the space between the recti muscles is opened—the muscles themselves often not being exposed. The parts being held asunder by retractors, the fascia transversalis is discovered on the floor of the wound. This is incised and the sub-peritoneal fat at once

starts into view. The knife should here be laid aside and the bladder exposed by tearing with finger nail and forceps, to avoid injury to the large vesical veins which ramify hereabout. Sir Henry Thompson has devised a special instrument of ivory for this "scratching work," and it is of the greatest possible use. The bladder must be thoroughly bared before it is opened. Its walls are unmistakeable to those who have once appreciated their peculiar appearance. The pale irregularly arranged cords of bladder muscle cannot easily be overlooked. Any large vein which is likely to be injured during the next stage of the operation is tied with two catgut ligatures, and divided between. The bladder is now caught at its highest part with a tenaculum, which is to be passed into the tissues until a trickle of fluid by its side proves its entrance into the cavity. With the bladder held up firmly by the hook, a half-inch vertical incision is made downwards through its most presenting part; there is at once an escape of fluid. Each edge of this small wound is secured immediately by a silk thread, introduced from within outwards with an ordinary curved needle. These threads are looped, tied, and given into the hands of an assistant, and the tenaculum is now withdrawn. The loops serve the double purpose of holding the bladder wound open for further manipulation and of preventing the organ retracting out of sight behind the pubes when its fluid contents have escaped. The tip of an index finger is introduced through the wound, and the size and locality of the stone determined. The opening is best enlarged by dilatation; the other index finger is introduced, and the stone, caught between the fingers held palm to palm, and withdrawn. A tighter hold may be taken by locking the fingers which are outside the bladder into each other. This is Thompson's suggestion, and it certainly answers better than either forceps or scoop. The objection that it necessitates a slightly larger opening has no real foundation. Care must be taken during extraction that no further disturbance of the cellular tissue in front of the bladder is made than is absolutely necessary.

When the stone is removed, and all bleeding arrested, the

questions we have to consider are two in number ; one relating to the treatment of the bladder wound, and the other with reference to bladder drainage. With regard to the former several courses are open for our adoption : we may merely pass a tube through the wound into the bladder, and leave the parts to adapt themselves together as they will, and heal by granulation. This is the easiest, simplest, and probably the safest plan, and is the method recommended by Sir Henry Thompson. We may, if we chose, pass a large tube through the wound down to, but not into, the bladder, and suture the belly walls closely round it, allowing the vesical wound to close in its own way. Instead of leaving the bladder wound open to heal by granulation, we may endeavour to close it at once. Opinions are divided on this question, and on the best ways of securing it. Several plans have been practised, with the result that failure has occurred in the majority of cases submitted to trial. One point is already made certain, that if immediate union of the bladder wall is to be attained the stitching must be such as will hermetically seal the opening. The slightest leakage immediately after operation negatives rapid healing. In four of my cases I have striven to secure closure of the vesical wound, but in one only has primary union followed, and here ten silk sutures were inserted so that none of them perforated the mucous lining. During this patient's recovery he had an attack of pain low down in the right side of the pelvis, which led me to think that a little leakage was occurring in the deep parts of the wound, and gave me some anxiety for several days. The whole thing cleared off, however, in about a week, and he made, with this exception, a rapid recovery. Dr. Brenner, of Vienna, has recently described a method of closing the bladder, by means of buried sutures, which are made to encircle the opening like the string round the neck of a bag. I have tried the plan in small fœcal fistulæ without success, although Mr. Tait has succeeded in curing biliary fistulæ by the same method. I have used the suture known as Lembert's, but I do not think it has any real advantage in extra peritoneal wounds. I believe that

interrupted sutures of fine antiseptic silk put in close together are best of all. A curved needle should be inserted one-third of an inch from the edge of the wound, and passed through the muscular layer into the submucous tissue, emerging on the wound's surface without entering the vesical cavity. It should enter the opposite side in the submucous tissue, pass through the muscular layer and escape at a point corresponding to the puncture of entrance. The sutures should be not more than one-tenth of an inch apart, and should all be inserted before any are tied. I would here point out how easy it is to suture connective tissue, thickened and stiffened with effused blood, in mistake for bladder wall; but if two silk loops, which I have already spoken of, are used, they are unmistakeable guides to the vesical tissues. After suture the bladder may be injected for the purpose of seeing whether the joint is watertight, and if leakage is discovered additional stitches must be introduced. With regard to this matter of immediate bladder suture, I think the condition of the bladder's interior should chiefly guide us. If the bladder lining is healthy, and the urine at the time of the operation is practically of normal constitution, I think we should certainly endeavour to secure immediate closure; but if, on the contrary, the mucous membrane is inflamed and thickened, and the urine ammoniacal, purulent, or "ropy," no attempt should be made to shut up the diseased organ, for in lengthened drainage we have an almost infallible means of cure for these unhealthy conditions.

After any of the above procedures the bladder may be drained through a catheter per urethram, or through a specially made perineal incision. I have tied in a catheter in most of my cases, but I am inclined to think that it does more harm than good. I have no experience of drainage through a perineal incision but it seems to me an altogether unnecessary addition to the operation.

When we decide to leave the wound to granulate, it should be lightly covered with clean absorbent wool, and the patient directed to lie alternately on each side to allow of perfect

drainage of the bladder cavity. When I attempt to close the wound at once, I dress it with the same dry boracic-acid dressings I am in the habit of applying to all primary wounds. At the close of the operation the rectal bag is to be removed after being emptied.

The chief points to attend to in the performance of the operation I would summarise thus :—The rectal bag should always be used, and the bladder moderately distended. Care should be taken not to wander away from the middle line in deep dissections. Do not forget to divide the fascia transversalis. Avoid the use of the knife when the perivesical fat is reached. Take a firm hold of the bladder before its contents are allowed to escape, and do not relinquish it until the operation is completed. Enlarge your bladder opening by stretching and careful tearing. Do not poke about in the connective tissue behind the pubes. Extract the stone with your fingers. Suture only wounds in healthy bladders, and suture them closely. If the bladder is to be drained at all, drain it through the wound you have already made.

I have not succeeded in ascertaining the mortality after Peterssen's operation, but judging from what I have learned from my own cases, and from an acquaintance with the work of other surgeons, I should expect to find it less than that of lateral lithotomy.

It is worth while briefly to consider the possible causes of death after this procedure.

Shock in a well executed operation—unless a patient is previously exhausted by his malady—ought scarcely ever to be severe. None of my operations have been followed by even moderate collapse.

Hæmorrhage—either primary or secondary—can only occur from vesical veins, and will not constitute a danger if the operation is carried out as I have described. I have had no trouble whatever with the bleeding. I have rarely tied a single vessel during operation, and only once have I seen hæmorrhage subsequently. On the following day my last patient passed per

urethram about $1\frac{1}{2}$ ounces of dark clots in blood-stained urine, but I am inclined to think they had been left in the bladder when the lithotomy was done.

Cellulitis in the connective tissue about the bladder constitutes a real danger, but may almost certainly be avoided by cleanliness and gentleness at the time of operation. I have not yet seen it in my own cases, but I was consulted recently by an elderly man whose general condition was anything but satisfactory, by reason of deep-seated suppuration in the left loin, which had followed a suprapubic lithotomy performed two or three months previously. Cellulitis is *most* likely to result when attempts are made to close wounds in unhealthy bladders.

Peritonitis may occur here, as in all other operations in the neighbourhood of the belly cavity. It is extremely unlikely to arise however, if we avoid injury to the membrane during our manipulations.

Exhaustion, urinary suppression, pyæmia, and septicæmia are less likely in this than in operations through the perineum.

Up to the present, I have seen in my own practise only one condition which may militate against suprapubic incision, viz., that of intractable urinary fistula. Case No. 4 has a small, occasionally discharging opening now, seven months after operation. I have tried two or three times to close it, but without success. I intend making a perineal incision soon, so as to drain the bladder from below, and thus give the fistula the best possible chance of healing.*

I would thus sum up the advantages of Peterssen's operation. It is an operation in the middle line of the body. There are no important anatomical structures, except the peritoneum, in the neighbourhood. It enables the operator to see every detail of his handiwork. It gives plenty of room for the removal of the largest stones. It is followed by more rapid convalescence. It does not endanger a man's virility. It is attended by little blood loss, and lastly, it is a procedure which demands less

* Since reading this paper I have made a perineal incision, and the suprapubic fistula has soundly healed.

operative dexterity, less of the "tactus eruditus," less of the indescribable something which makes the successful operator, than either median or perineal lithotomy.

Summary of Cases.—CASE 1.—Oct. 16, 1886.—M. A., tinplate-worker, 19 years, robust, symptoms for twelve months, blood at intervals during five weeks. Condition of urine not stated. Operation:—8 ounces of fluid in rectal bag and 10 in bladder; $2\frac{1}{2}$ inch incision. Peritoneum not seen; bleeding slight; bladder opened by puncture and tearing; stone broke during removal with forceps; bladder wound left open; superficial parts closed with silver stitches, drain tube inserted down to the bladder, and catheter tied in bladder for two days; urine per urethram on 11th day; wound healed on 22nd day. Oxalate of lime calculus, $3\frac{5}{8}$ in. in smallest circumference, and weighing 285 grains. Saw him a few days ago, perfectly well.

CASE 2.—July 29, 1887.—W. B. H., 4 years; rachitic and thin. Frequent micturition for two or three years. No blood noticed. Urine Alkaline. Operation:—No rectal bag, 4 ounces of fluid in bladder; $1\frac{1}{2}$ inch incision; peritoneum not seen; bleeding slight; bladder opened by puncture, and torn; two stones removed with forceps; bladder wound closed with six silk sutures; superficial parts closed with silver, and drained; catheter tied in bladder twenty-four hours; urine from wound on the 3rd day, and continued for five days only. All passed per urethram on the 7th day. Wound not soundly healed until 38th day. Two symmetrical calculi of uric acid with phosphatic coating, weighing 140 and 142 grains, and measuring $2\frac{3}{8}$ inches in shortest, and $3\frac{3}{8}$ inches in longest circumferences. Perfectly well at last visit.

CASE 3.—July 23rd, 1887.—G. H., 4 years; robust; frequent micturition for several months: blood?: urine not stated. Operation:—No rectal bag; 4 ounces of fluid in bladder; 2 inch incision; peritoneum not seen; bleeding slight; bladder opened by puncture and stretching; stone broke in removal with forceps; bladder wound closed with five catgut sutures; superficial parts closed with silver, and drained; catheter per

urethram for twenty-four hours; urine from wound on 3rd day, and continued for nine days; all urine through urethra on 12th day; wound soundly healed by 24th day. Phosphate of lime calculus; soft and friable; weighing 61 grains. Quite well at last visit.

CASE 4.—Aug. 19, 1887.—H. B., 52 years, packing case maker. Healthy but thin. Frequent micturition, pain, and blood occasionally during three years. Urine acid, with trace of albumen. Operation:—rectal bag 10 ounces; bladder 12 ounces; 3 inch incision; peritoneum not seen: bleeding slight; bladder opened by puncture and tearing; stone removed with fingers; bladder closed with six Lembert silk sutures; superficial parts with four silver stitches, and drained; catheter through urethra for seven days. Urine came per urethram almost at once, in part from wound on the 1st day, and not again until 8th day, since when it has continued till the present time (seven months). The wound is soundly healed, except for the small fistula. The man is in good health, but the urine contains muco-pus. Uric acid calculus measuring $4\frac{3}{4}$ inches in smallest and 7 inches in largest circumference, and weighing 910 grains.

CASE 5.—J. E. T., clerk, 21 years. Well nourished. Symptoms of ten months standing. No blood. Uric acid. Operation:—rectal bag 10 ounces; bladder 10 ounces; $2\frac{1}{2}$ inch incision; peritoneum not seen; bleeding slight; bladder opened by puncture and stretching; stone removed with fingers; bladder wound closed with ten silk sutures; superficial parts with four silver ditto, and drained. Catheter per urethram for three days. No urine from wound at any time. Wound soundly healed in 5th week. Triple phosphate calculus measuring $3\frac{1}{8}$ inches in shortest and $4\frac{3}{4}$ in greatest circumference, and weighing 330 grains. Was shewn at the meeting; well in every way.

CASE 6.—Feb. 5, 1888.—T. B., 24 years, carpenter; thick set man; frequent micturition and pain during three years; bloody urine occasionally eighteen months ago; urine alkaline with phosphate and few pus cells. Operation:—Rectal bag 10 ounces;

bladder 8 ounces; $2\frac{1}{2}$ inch incision; peritoneum not seen; bleeding slight; bladder opened by puncture and stretching; stone removed with fingers; bladder wound sutured with four silk sutures in its upper half only; superficial parts with three silver ditto and drained; urine through wound at once, and through urethra on following day; wound is still leaking freely. † Triple phosphate stone measuring 3 inches in shortest, and 5 inches in longest circumference, and weighing 412 grains.

All the above cases recovered from the operation without difficulty. Four are absolutely well in every way, and one was operated on only twelve days ago. One has an urinary fistula seven months afterwards. The youngest was 4, and the eldest 52 years. The stones varied in weight from 61 to 910 grains. Symptoms had existed before operation from several months to three years. The rectal bag was employed in all except the four-year-old boys. The peritoneum was never seen. The bleeding was trivial. In five out of the six the bladder wound was sutured: only one healed by primary union. Urine leaked from the others for 7 days, 12 days, 12 days, and 16 days, and 7 months.

I would conclude by stating my opinion that the above six cases, taken collectively, will bear favourable comparison, either as regards risk and suffering to the patient, labour and anxiety to the surgeon, completeness and rapidity of recovery with a similar half-dozen treated by any other cutting operation.

† Urine ceased to flow through wound about the 24th day. He is now quite well.

THE DAVOS AND ENGADINE VALLEYS.*

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THE Canton of Grisons is the most eastern portion of Switzerland: on the east and north it is bounded by the Austrian Tyrol and on the south by Italy. Through the whole of this Canton runs, from south-west to north-east, the valley of the Engadine, which is seldom much over a mile in breadth, and often, as between Sûs and Zernetz, not half this width. It is divided into two portions, Upper and Lower; the exact point of division is variously stated: Baedeker in his letter-press makes the Upper Engadine cease at Samaden, but in his map it extends to Zernetz. For our purpose to-night we shall include in the Upper Engadine only that most south-west district which lies between Samaden and the Maloja; and it is to this Upper Engadine, so delineated, to which alone reference will be made.

The whole valley is some 60 miles in length, but the Upper Engadine measures only 15. This narrow tract of 15 miles is one of great and striking beauty: its floor is chiefly occupied by a string of pale green lakes—those of St. Moritz, Campfer, Silvaplana, and Sils—the last and largest of which is four and a half miles in length. Linking these together flows the baby Inn, rapidly growing by means of its many glacier tributaries, till it falls, a tumbling torrent, over the escarpment which so strangely separates St. Moritz from Celerina and Samaden. The edges of these lakes are clad with grass and bordered by charming walks beneath the shade of pines. On each side the valley the mountains rise steeply; on the north-west to end in the frozen peaks of the Piz Julier and Piz d'Err; while on the south-east lie massed the mighty glaciers of the Bernina range. But the charm of the Upper Engadine chiefly exists in the grand forms

* Paper read before the Midland Medical Society, April, 1888.

in which these mountainous ramparts are outlined : there is such striking diversity and boldness in their shapes that one can gaze long without perception of monotony.

Its places suitable for winter residence are—the Maloja Kursaal, Sils Maria, Campfer, St. Moritz, Samaden, and Pontresina.

The Maloja Kursaal is not very happy in its situation ; it is nearly on the summit of the pass leading down into Italy : this is a very low one, and allows the south-west wind to rush up the Val Bregaglia with a good deal of its unpleasant moisture still in it. The Lake of Sils too lies very near the hotel and is practically on the same level as this ; hence one would think, as indeed I was told—I confess, at St. Moritz—the Kursaal is apt to share in the mists which hang over the lakes. Certainly the night I spent there in October last the whole place resembled a veritable cave of winds with all the winds let loose and a swirling snow storm added. But Dr. Wise asserts that the Föhn (south-west wind) is rarely perceived here. The Kursaal itself is a magnificent structure and far the most complete in its appointments of all the Hotels in the two valleys.

Sils Maria and Campfer are two charming hamlets on the south and north sides of the valley respectively ; they are both well protected from the wind, quiet and sunshiny : as yet they are scarcely to be called winter residences though Campfer is said to have an admirably-conducted hotel.

Samaden has one good hotel which is kept open during the winter and is fitted up most completely as invalid winter quarters. Samaden is blessed with much sunshine and is the Engadine capital, but the scenery will not compare with that of either of the other hamlets.

Pontresina is too bustling in summer, and in winter too exposed, to be suitable for any but very robust invalids ; for it is at the meeting of three valleys. For those who can stand such exposure however its large amount of sunshine would prove most exhilarating. It is scarcely as yet prepared to receive winter visitors.

St. Moritz Dorf is at present the place for invalids in winter,

St. Moritz Bad is too exposed and, lying just at the upper end of the St. Moritzer See and on a level with it, is liable to the mists which cover the water. The village however is placed sufficiently high on the northern slope of the valley to be out of reach of these. The drainage runs into a reservoir near the Fall of the Inn; here it settles, and the sediment is used for agricultural purposes whilst the fluid portion flows into the river. In the village itself is nothing beautiful, merely a straggling, stony, steep street, with uninteresting houses closely packed along its sides; but the neighbourhood is delightfully romantic.

Some twenty miles to the north-west of that portion of the Lower Engadine which lies between Sūs and Ponte and running parallel to this, only sloping in the opposite direction, is the Davos Valley. It is separated from the Engadine by a mountain range of which the most prominent peaks are Scaletta and Kesch. The two are connected by the Fluëla Pass between Davos Dörfli and Sūs and by the Albula between Alveneu and Ponte. There is also a fine foot-walk from Davos Platz up the Dischma Thal and over the Scaletta Pass which enters the Engadine by the lovely Salsanna Thal between Sūs and Ponte.

The valley of Davos is only ten miles long; it is narrower than the Engadine and far less interesting in natural scenery; indeed, for a Swiss valley, it is distinctly plain and humdrum compared with its fascinating sisters. The Davoser See at its upper or north-east end is a small oval lake some two miles long around which pine trees cluster thickly and prettily, affording some charming points of view. This is the pleasantest part of the valley for below it consists of somewhat tame and monotonous grass slopes reaching up to the belt of pines above which the eye sees only sky. When looking down the valley, south-westwards, however, some really fine Alpine scenery discloses itself, among which the Piz Michel, Piz d'Aela, and the Tinzenhorn—the Matterhorn of the Grisons—stand out conspicuously, well above the line of perpetual snow.

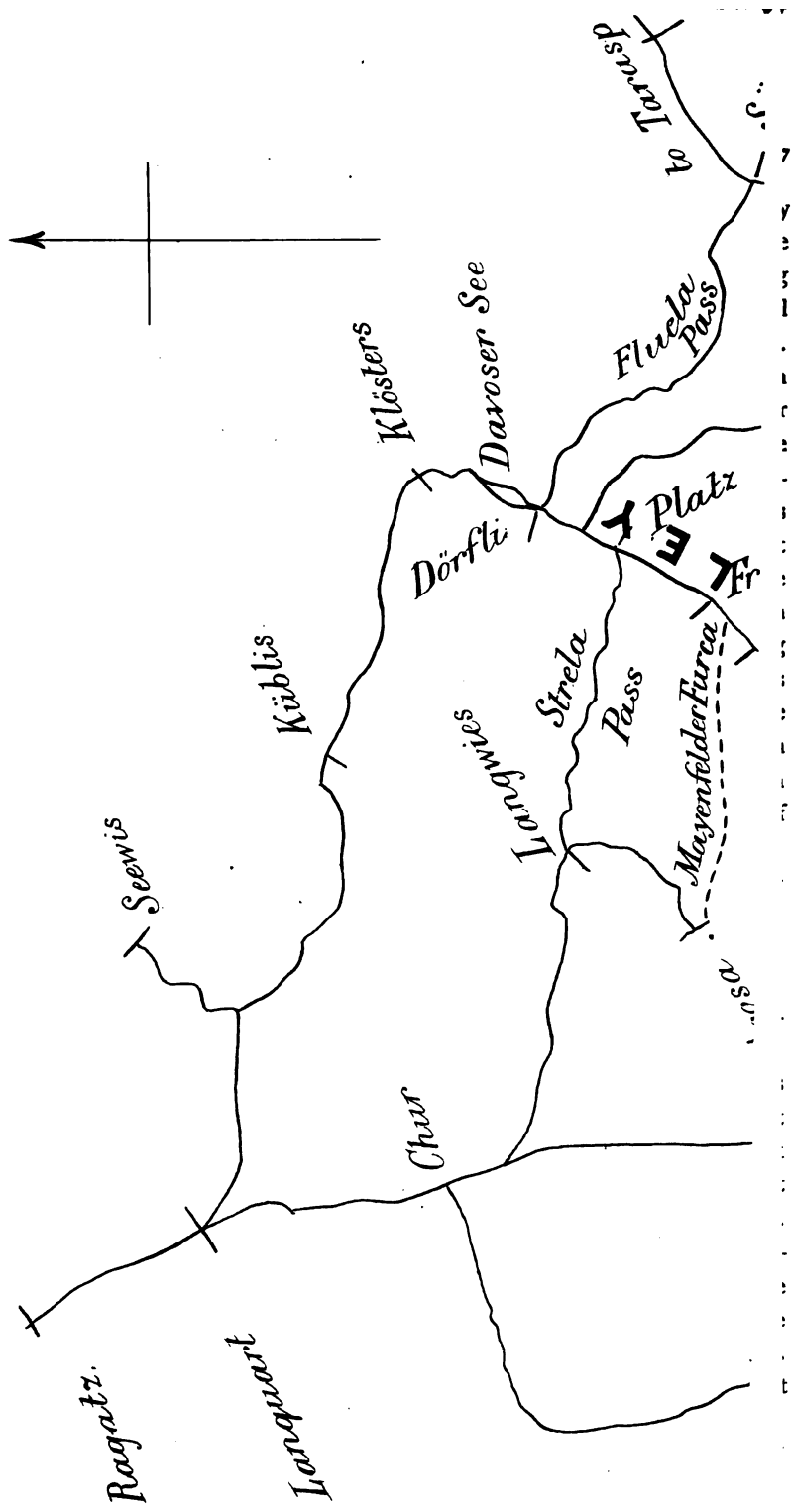
Dörfli clusters around the lower end of the lake; it is the sunniest spot in the valley but is more windy than the rest,

being situated just where the Fluëla pass runs down. Dörfli is a quiet spot with few hotels but several villas and cottages in which those whose pockets are shallow, or who love quiet, can find a very pleasant habitation. I came up from Landquart with a lady who was returning to spend her fourth winter in a cottage at Dörfli; she was loud in its praise, and her preference for it to the noise and bustle and smoke of "fashionable" Platz. This Platz with its much abused smoke and gaieties is only one mile farther down. It lies at the foot of the northern slope of the valley and is thus fully exposed to all the available sunshine. The inhabitants number some 5,000 and the town consists mainly of houses dotted irregularly along the high road for the space of a mile; these, if of any size, are either shops or hotels; the shops are by no means poor but their prices of course high. The drainage of Platz is excellent, both that inside the houses and the general system of the town: every house has its private drain and all these empty in one large outlet into the Landwasser, the valley river, some mile below the town. The unlimited supply of water enables the Davosers to do without ventholes. Through the drain of each house runs a ceaseless stream of water and the main drain is kept constantly flushed by an impetuous mountain torrent. Thus any notable accumulation of gas is impossible. And as a matter of fact I failed to detect any unpleasantness in any of the closets of the Belvedere.

Davos Frauenkirch, three miles below Platz, is prettily situated at the entrance to the Sertig valley and just below an old moraine which stretches half way across the Davos valley at this point, but it is below the inlet of the Platz drainage into the Landwasser and is moreover deficient in accommodation, the only Hotel being the Post, which is much like one of our old country posting houses.

Below Frauenkirch the valley contracts greatly, and has therefore too little sunshine to be suitable for invalids, though its beauty varies directly with its narrowness.

The principal hotels at Platz occupied by the English are the Kurhaus, Belvedere, Buol, and Angleterre. Of these the



Belvedere and Angleterre are almost exclusively occupied by speakers of our language. The Belvedere has, perhaps, the best situation and Herr Coester thoroughly understands making his guests comfortable. The Angleterre has a pleasant, genial English landlady and the furniture is of English pattern. These, with the cosy open fireplaces, make one almost feel in the country which, grumble how we may, we know in our inmost souls is, after all, far and away the best in the whole world. The Buol is lighted by electricity which is of considerable advantage in the matter of ventilation. The Kurhaus is the only one which attempts any serious ventilation apart from door, window and stove. Indeed, ventilation is the serious drawback to Davos ; and when we remember that from three or four o'clock in the afternoon to nine next morning must be spent indoors by the majority of the invalids, this drawback assumes very large proportions indeed. The Britannia dependence of the Kurhaus admits fresh air from outside, which is warmed by passing through a stand of steam pipes. These pipes are enclosed in a case made of layers of paper welded together to the thickness of a quarter of an inch, and the air enters the rooms through holes in the top of these cases. The amount of air entering can be regulated by the occupant. The paper case is so bad a conductor of heat that its external surface is scarcely warmed, however hot the pipes may be. But there are two grave objections to this system—first, it is used primarily to *heat* the chamber ; when, therefore, this is sufficiently warmed, the air inlet is shut off and thus departs all attempt at ventilation. Second, there is no outlet for used-up air anywhere. When I naturally expressed blank surprise on discovering this I was naïvely told that you might open the window if you wished to get rid of the foul air. All these hotels chiefly depend upon upper fall-back windows ; but the efficacy of these with stoves I found to be quite insufficient, my bedroom being stuffy on awaking in the morning though my fall-back window was opened its widest. There are dotted about occasional tobins and wall outlets, but

these seem scattered haphazard, and some of them, at any rate, do not act. The Belvedere, at which I stayed, has four fairly lofty intercommunicating salons. I made a point of entering these just before the lights were put out at 11 p.m., and always found them disagreeably close. I suspect the atmosphere of the salons in the other hotels, whose rooms are less lofty, cannot, at any rate, be better in this respect.

The Kulm Hotel at St. Moritz is finely situated, looking down upon the lake and across it to the pleasant pinewood path to Pontresina, where the clear and cloudless Stützer See lies darkly hidden; and then, farther south, the eye runs up the green pinewood slopes to the snow-clad summit of the Piz Rosatsch. But this is of summer that I speak for in Mid-October, when I saw it, the whole was white and as we left we saw Dr. and Mrs. Main starting the first toboggan of the season. The rooms of the Kulm are finer than any in Davos: they are extremely lofty and quite handsomely furnished. The salon is an especially fine chamber with vaulted roof and elegant top lighting. In this room (as in the public rooms of the Kurhaus at Davos) there is inlet and outlet suitably situated. The ventilation of the bedrooms was no better than in the hotels of Davos, but as the Kulm rooms are larger and loftier the consequent disadvantages were correspondingly less. But I believe the energy of Herr Badrutt is going to change all this. At any rate in the new part, which he was kind enough thoroughly to explain to me, there is an elaborate and complete system of ventilation, in this wise:—The inlet of warm fresh air is practically on the same plan as that of the Britannia Dépendence of the Davos Platz Kurhaus, but here, in addition, is a properly provided outlet, which is situated near the floor at the opposite end of the room. The pressure of the steam in pipes is only equal to half an atmosphere, hence the temperature never exceeds that of boiling water, and thus all excessive drying of air is, to a large extent, avoided. As to this outlet being near the floor, it is so for the following reasons:—First, in winter the outside temperature is so low

that were it near the ceiling there would simply be a rush of the pure warm air from inlet to outlet and the floor of the room, where the patient is, would remain very imperfectly ventilated ; but with the outlet near the floor, the pure heated air rushes up against the ceiling and then, as it cools, slowly descends upon the occupant till, foul and cool, it slinks along the floor to the outlet, outside which, still comparatively warm and buoyant, it ascends above the house to be refrigerated and purified. Of the perfection of this method I have no experience, but both Herr Coester, of Davos Platz, as well as Herr Badrutt, assured me of its practical efficacy. One drawback to it is that the lowest strata of air in the room is the coldest, and thus cold feet are likely to be perpetuated or else unpleasantly-warmed brains. If the patient be confined to bed, it should of course act perfectly.

The great Kursaal on the Maloja has, I think, the best ventilation of all. Here the system is a central one: the air rushes over hot pipes in the basement and thence ascends through closed channels to the various chambers. The air enters each room close to the floor, the amount being regulated by the occupant. It is of a pleasant temperature, and hence *some* air is always required and thus *continuous* ventilation obtained. The outlets are two in number in the wall opposite to that of the inlet—one is near the ceiling and is for the summer season chiefly when simple unheated air enters by the inlet: the other, near the floor, is so placed on the same principle as that of the St. Moritz Kulm. Of the efficacy of the Maloja ventilation I made practical observation. On going to bed I shut window and door (there is no fireplace), opened the inlet and both outlets ; in the morning the air was found to be perfectly sweet—so far as the sense of smell went—whilst the temperature had been kept pleasantly warm, allowing of very scanty bed covering. Yet I woke with none of the malaise from dry heated air to which I am usually easily susceptible.*

* Dr. Wise says that 3,500 cubic feet of air can be supplied to each person in the Kursaal when this is full, *i.e.*, has 500 inmates.

Of the drainage system of the Maloja I know nothing, but the closet was quite sweet, and well appointed and heated. The other arrangements were excellent and the public rooms very fine. Though we sat down but five to table d'hôte I have nothing but praise to bestow upon the cuisine.

When discussing the value of mountain climates we have, amongst other things, to consider—

(a.) The Temperature. It is evident that the colder the inhaled air is the greater drying effect it must have upon the lungs. For the exhaled air has the temperature of the body according to Steffen, or at any rate always reaches 85° to 95° as Hermann Weber thinks. Hence if air saturated with moisture at 32° be inhaled and heated to, say, 85° , it must exert more drying power than the inhalation of saturated air at 62° , which would be heated, say, to 90° , by the amount represented by $53^{\circ} - 28$, i.e. 25° F. For in each case the exhaled air is almost, if not quite, saturated.

(b.) Humidity. But apart from the low temperature and therefore the small amount of *absolute* moisture in the air of mountain valleys—which in the case of Davos for the six winter months only averaged 3.2 mm. Mercury and only 4.9 for the whole year—the *relative* humidity in these regions is very small; for the winter six months of the year being 81.5 and for the whole year only 78°. But even this does not state the whole case for, as one would expect, the air being so strongly heated by the reflected rays of the sun during the day the relative humidity is much diminished. For instance, in January, 1887, the mean relative humidity of the month, taken at 7 a.m., 1 p.m., and 9 p.m., was 88°, but that at 1 p.m. only 84. Again, in *June*, 1887, the difference is far greater, for we find the numbers to be 65 and 46 respectively. But as the average absolute humidity for June was 6.67 mm. Mercury, whereas that for January was only 2.09 mm. it is probable that the drying power of the air was greater in January. This difference of relative humidity in different periods of the day is most important from the invalid's point of view. They

are out only during actual sunshine, *i.e.*, during the time of least humidity. When indoors, what relative dampness there is in the air, is speedily lessened by the increase of temperature the air undergoes on entering the heated apartment, so that the danger is of breathing not too damp, but too dry an atmosphere. It is this dryness of the air which partly causes epistaxis and hæmorrhage from other superficial mucous membranes. These get dried up with a tendency to local stasis of blood in them, especially when the air is cold. However this is only on first coming up, for (according to Dr. Huggard, the resident English Physician at Davos) the mucous membranes soon acclimatise themselves to their new condition.

(c) Solar Radiation. The amount of this is really amazing. Dr. Frankland, so long ago as 1873, found at Davos on December 24th that a thermometer with blackened bulb, in the sunshine, in vacuo, at noon registered 108.5° F.; while on the same day at the same time, at Greenwich, it was only 65.5°, the temperature in the *shade* at Davos standing at only 30° F. This vast difference creates quite startling sensations in the residents in these valleys. Apropos of this, Mr. de Beauchamp Strickland, editor of the *St. Moritz Post*, remarked to me concerning the Kulm Rink, which was cleared of snow, and had this banked some eight feet high, that "sitting fronting the sun with your back in the shade, and facing this snow wall, was like sitting over an English fire with a good draught behind you." Such days of burning sunshine as these are the pink of the winter season, and in them, Dr. Main says, "we lunch on the ice with a snow wall for a protection under an umbrella to mitigate the heat of the sun and with our water for lunch freezing in the shade cast by our bodies." And again: "So hot is the weather that many persons find it pleasanter to bask in the sunshine rather than to indulge in the more active amusements of the place."

(d) Barometric Pressure. This is some 5-ins. less than at sea-level, which is equivalent to removing three tons from the total pressure on our bodies. Vapours diffuse more rapidly

the lower the pressure, hence, other things being equal, evaporation will be much greater in high altitudes. Another reason, this, why the air of mountain valleys should be so dry.

(e) Snow. This practically covers the ground during the whole of the winter season to the depth of three or four feet or more. It is therefore necessary to note its effect. It has these advantages, according to Hermann Weber :—

1. The air-currents or winds resulting from the sun's heating the ground are almost entirely avoided.

2. There is no evaporation from the surface of the earth for the snow has been cooled too far below freezing during the long night to be raised above it by the few hours of sunshine. The air is thus rendered much less moist and more diathermanous for the sun's rays, so that its illuminating, chemical, or warming power is much increased.

3. Emanations from the soil or ordinary dust are prevented from accumulating in (contaminating) the air.

4. Radiation from the earth is prevented, and a limit set to the penetration of frost within it: the earth is kept warm, and hence quickly blossoms into summer so soon as it and the sun become once again acquainted.

(f) Sunshine. Listen to this extract* from the meteorological report of Mr. and Mrs. MacMorland, visitors at the Hotel Belvedere at Davos Platz. Does it not make one long

* JANUARY, 1887.—GENERAL DESCRIPTION.

1 Sunshine and clouds	10 Cloudy, with gleams	20 Sunshine and clouds
2 Sunshine and clouds	of sunshine p.m.	a.m. Cloudless p.m.
3 Cloudless	11 Cloudless.	21 Cloudless.
4 Sunshine and clouds.	12 Cloudless.	22 Cloudless.
Mod. breeze.	13 Cloudless.	23 Cloudless.
5 Cloudy.	14 Cloudless.	24 Cloudless.
6 Cloudless save some	15 Cloudless.	25 Cloudless.
cirrus.	16 Cloudless.	26 Cloudless.
7 Cloudless save some	17 Cloudless.	27 Cloudless.
cirrus.	18 Cloudless save some	28 Cloudless.
8 Cloudless, save some	cirrus.	29 Cloudless.
cumulus on the	19 Almost constant sun-	30 Cloudless.
horizon p.m.	shine.	31 Cloudless.
9 Cloudy, snow p.m.	Amount of water 0·21.	

to cry with David and Mendelssohn, 'O that I had the wings of a dove;' long yearningly for such bright calm and restfulness even as a miner longs to reach the light of day. It was January, 1887—most of us can remember the month in England. At this valley of Davos they had twenty-three cloudless days, only two on which any snow fell and this only three inches in depth, equivalent to one-fifth of an inch of rain. Sunshine in the world physical is like a merry heart in the mental world: it is nature's greatest tonic. Light, says Hermann Weber, is inimical to the development of the bacteria and microscopic fungi which are associated with putrefaction and decay; this preservative quality of light is most powerful in the direct solar ray but can be shown to exist in ordinary diffused daylight. Tucker Wise has an interesting observation regarding the value of sunshine. He says many anæmic servant girls come up to the mountains for their health's sake, and take service in the hotels. He has noted that those confined to the kitchens and shady rooms do not improve, whereas nurse girls, who are out with the children every day, quickly do so.

(g) Wind. This is one of the most important elements in climate, especially in high altitudes, where the air is piercingly cold. Here the slightest breeze is most keenly felt and changes a lazy basking in the sun to a desire for a quick walk and a warm overcoat. On going out after sundown I have particularly noted this—a very low temperature being borne with ease till a mild valley wind sprang up and made it almost unbearable. It was wind which made the cold of Vienna to me so unendurable. Indeed, the pleasantest day there was the coldest—4° below zero; whereas other days, when the temperature was as high as 10° and 20° F., a blustering wind pierced your very marrow and made outdoor exercise, as mere pleasure, impossible.

The winds in these valleys are of two kinds—local and general. The local or valley winds are morning and evening and correspond to the sea and land breezes of seaside health resorts. After sunrise the bottom and lower slopes of the valley

get heated sooner than the upper slopes and mountain tops and they heat the lower strata of air which thus rise and let down the colder upper strata and so produce the morning valley wind. In the evening the tops of the mountains and higher slopes radiate off their heat into space more rapidly than the more shut-in lower slopes and bottoms of the valley; that is, they cool more rapidly, and hence cool the strata of air lying upon them. These thus descend, flowing down the slopes of mountains, and force up the not yet cooled lower strata, thus producing the evening valley wind. These valley winds blow with fair regularity and evenness of force and leave the middle of the day, when invalids wish to walk, practically unaffected by them. They are therefore easily reckoned with and are no drawback to the patient's existence. Moreover, they are necessary for the valley's ventilation: indeed, at Davos, it is doubtful whether a little more of them would not prove beneficial, as the air probably suffers at times from stagnation.

Of general winds the only one which exercises an evil influence, or is of strength sufficient to produce much influence, is the Föhn or S.W. wind. This is the deflected equatorial current and is more felt in N. E. Switzerland than anywhere else. Hermann Weber calls it a warm dry wind: "originally warm and moist," says he, "it loses most of its moisture on the western slopes of the Alps. Thus, in 1864, whilst the Föhn was blowing and the sky overcast, I noted the relative moisture was but 30 p. c. with a temperature of 82° F."

However the Föhn is dreaded as a bringer of unsettled weather, of storms and clouds, of catarrh and dyspepsia; besides it, even in winter, causes sometimes a slight melting of the snow. J. A. Symonds calls it the "relaxing" south wind, but adds that at Davos both this and the keen north are fairly excluded.

Circulation.—With regard to the effect of high altitudes on this Cœrtel tells us that Waldenburg found the fulness of the radial pulse—*i. e.* its sectional area—increased with diminishing pressure: so much did he find this to be the case that, whereas, under normal pressure, it took 41·7 cardiac contractions to

completely arterialize the blood, under a very low pressure only 27 were required. Waldenburg also observed a considerable quickening of the pulse rate.

The general arterial tension Oertel also finds to be considerably increased, and considers this due to, 1st, increase of cardiac force, or of relatively increased cardiac efficiency ; and, 2nd, to the increase of the peripheral resistance owing to the greater fulness of the capillaries, on account of their being exposed to negative pressure. The absolute blood pressure is of course lowered, though not to so great an extent as the atmospheric.

This peripheral fulness of the cutaneous circulatory system naturally produces a rise of the peripheral temperature, *e. g.*, that of the closed palm was 2° F. above normal, whilst the central (*e. g.* rectal) sank rather more than this.

But all these are laboratory and therefore temporary results, and they do not tally with the observations on patients at Davos.

Theodore Williams quotes Ruedi—a physician of Davos—as stating that in 117 patients who had spent six months at Davos, the cardiac rate remained stationary in 7½ p. c., increased in 15 p. c. only, and actually decreased in 77 p. c.

But this again is delusory : patients are not healthy subjects : the improvement in their general health might well so greatly lower the cardiac rate as to more than counterbalance the quickening effect of the high altitude.

At the same time, Ruedi's is the most important observation for us, as it is for patients we wish to use these valleys, and the result on them seems to be decidedly beneficial.

Respiration.—The effects of diminished barometric pressure on respiration are most confusing and the results obtained by different observers, and even by the same observer, at different times, most conflicting. Especially do experiments made in the laboratory refuse to tally with those made on human beings residing at high altitudes (*e. g.*, those of Paul Bert, Oertel, &c., with those of Marcet, Jourdanet, &c.). Probably the following conclusion approaches to the truth. Other things being equal, a

low pressure lessens the weight of oxygen in a given volume of air, and would therefore lessen the weight absorbed by the blood during a given inspiration, but the increased energy both of respiration and circulation at high altitudes more than compensates for this, so that the interchange of oxygen and carbonic acid is actually increased—the profits made on a given capital at any moment are diminished, but the gain in a given time is greater, the turn-over being more rapid—a case of small profits, quick returns.

What kind of Patients do well on the Alps?

1. Those who want their chests expanded. — Hermann Weber, in fourteen young persons with narrow but not actually phthisical chests, found expansion varying from three-eighths to one inch after an Alpine residence of three to twelve months. Theodore Williams found expansion in nearly the whole of twenty-two consumptives who had resided, on the average, six months (two to eighteen) in the Alps—chiefly at Davos. He supposes this is due (1) to hypertrophy, *i. e.*, a more complete development of certain portions of healthy tissue; and (2) to emphysema of other portions, especially those which border on consolidations and cavities, these being unable to respond to the call of the deeper inspirations from lack of proper nutrition.

2. Those who suffer from anæmia of those portions of the body which are exposed to the air, or who would be benefited by an excessive supply of blood to those portions. That is, most cases of phthisis, especially those without fever, where the condition is one of stagnation rather than of inflammation. On the other hand, patients liable to acute inflammations of the superficies are, as a rule, unsuitable; *e. g.*, those with a tendency to acute rheumatism, acute inflammations of the pharynx or larynx, or to acute bronchitis or pneumonia. But cases of hectic not seldom do well; abundant night sweats especially often soon vanish. The air acts as a stimulant to the skin and remedies its relaxed condition. The great drying power of the air also is of advantage here.

3. *Those who require a dry atmosphere.*—The exsiccating

efficacy of the air is of use in chronic bronchial catarrh, in cases of secreting cavity, and in simple laryngeal catarrh. Caseous deposits should dry up. Hermann Weber has made eight post mortem examinations on those who had temporarily or permanently been cured of phthisis by residence in elevated districts and he found chalky deposits in four of these. This certainly seems a large proportion; but every pathologist will tell us that such masses are by no means rare in this country in lungs which show evidence of healed destructive processes, and, in the absence of extended observations, any dogmatism on this point is out of the question. By this I do not for one moment wish to deny the curative action of the drying power which Alpine air possesses, but merely to express a doubt as to whether chalky masses are found in greater proportion in cases cured by its aid than in cases of healed phthisis occurring in this country. Phthisis, when it heals, nearly always does so to some extent in this manner wherever the healing takes place. That Alpine air is of great benefit in aiding this process hardly admits of doubt.

There are two classes of cases which resist all our efforts at exsiccation, and it is extremely unfortunate that these are unsuited to an Alpine climate. I refer to chronic general bronchitis with secondary changes and cases of advanced bronchiectasis. All authorities, with one accord, assert the unadvisability of sending such patients to the mountains. In fact, whatever theories we may hold as to action of rarefied air and cold, practically there seems to be no doubt that the destruction of lung tissue must not be very great, that there must be a fair amount of breathing tissue left, and moreover, that the circulatory apparatus must be sound: this latter condition seems to be a *sine quâ non* for Alpine treatment. At the same time profuse bronchorrhœa without marked emphysema or fibrosis, slight bronchiectasis, or bronchiectasis *localised* to one lobe, *e.g.* that resulting from an unresolved pneumonia—such cases as these do exceedingly well.

4. Erethic cases do badly. I mean by this those who are

born with excitable, irritable constitutions, whose temperature runs up on the slightest provocation and whose mentality is proverbially mobile. Such constitutions as these run riot under the stimulation of high altitudes and sadly wear out their possessors. But men made irritable by overwork or convalescing from severe illness recover fast, provided that previous to the overwork or illness their constitutions were fairly strong. Burney Yeo puts this well when he says, "I believe this kind of climate is especially useful to those who have been *strong*; but by some accident or other, such as overwork, or illness, or trouble, have become weak: to those who possess a latent power of reaction. I do not think it so advantageous to the essentially weak person to whom 'twelve hours on a glacier' always has been, is, and always will be an utter impossibility." A most striking instance of the truth of this was a young Cantab. who was the pride of the Belvedere when I was there last October. He was expected two or three days after I got there and every one of the old residents always ended up their climatic adulations with the phrase, "Ah! but you must wait till *he* comes. And I must say I was astounded. He filled the Hotel with the noisy volume of his chest notes and towered above you a good-humoured giant, the very picture of athletic health. Four years ago he had been carried into the Belvedere and taken upstairs to—as some sympathetic young ladies told me—*die*; but seriously, he was supposed to be hopelessly gone in the advanced stage of phthisis and an utterly unfit case for high altitudes. However, he rapidly picked up and the next winter won the national toboggan race at Klösters, repeated this achievement in his third winter, and in his fourth ran second, and now, when I saw him, in his fifth, he appeared to have come up for pleasure as much as anything.

I think it is this condition of having some stamina, some backbone, which we must consider far more than the actual amount of disease present. This granted, then there are few cases of phthisis, *e.g.*, which I would not advise to try Alpine treatment. We must always take *cum grano salis* the statements

of the local physicians: they are doubly biased—1st, by the desire to have a small death rate: an epidemic of mortality at an Alpine station would necessarily be fatal to its prosperity; and, 2ndly, they have a praiseworthy shrinking from that quackery which lauds a certain drug as a universal panacea, and hence advise us, perhaps too strongly, in the opposite direction.

5. Hermann Weber's statistics show that cases of hæmoptysis do well, and this I found to be the universal belief among the local physicians. Weber found that in 88 patients who spent in the aggregate 600 months in low-lying stations 36 suffered from hæmoptysis and that 62 attacks occurred during the 600 months. Whereas in 62 who spent 600 months in high altitudes hæmoptysis occurred in 11 only, and the number of attacks was 16. That is, the tendency to hæmoptysis in high altitudes was only $\frac{1}{3}$ that in low stations. This is no doubt due to the lessened tendency to suppuration, septic states, and rapid destruction of tissues which an elevated climate produces.

When to go.—As to the period of the year when patients should travel to these Alpine valleys I think there can be no question at all: it should be the middle of summer. This is the best time to travel and hence they are less likely to arrive with a chill. There will be less shock from change of climate: they will still retain in their systems a memory of our bleak spring so that the sharp nights of Alpine summer will not smite them too severely and they will revel all the more keenly in the glory of its sunshine after the long winter of English discontent. Lastly, they will thus have become quite acclimatised by the inset of winter and able to take full advantage of its benefits.

The great drawback is the much abused bugbear of snowfall in autumn. I purposely timed my visit so as to come in for this transition period and I must say the danger and unpleasantness of this time is much overrated. You cannot rely upon absolutely settled weather anywhere about the equinox, but during the fortnight I spent in these two valleys I had only two snowstorms, no rain, no blustering winds, and as much sunshine as

England would have given me in a month or six weeks. The air was keen, it is true, and after sunset nipped shrewdly, but it will be long before I forget the delight of smoking on the Belvedere balcony after breakfast : in fact the weather then was much like it was on the Riviera last January. Just enough sharpness in the air to make one remember that lotus eating is not the chief end of our existence and that exercise is good for the heart of man.

How Long to Stay.—Once up, stay there till you are well is the best advice. Far too much stress is laid upon the evils of snow melting. Besides, these can be almost entirely avoided by judicious fitting from one Alpine station to another. For instance, the winter lasts longer in the upper Engadine than in the Davos valley. Let the denizens of St. Moritz or the Maloja leave their quarters when the snow begins to go and take the diligence to Davos Platz ; or, better—for Platz is barely 1,000 feet lower—fly to Wiesen, which, being high up on the northern slope of the magnificent gorge of the Züge, quickly loses its snow when this begins to melt. The accommodation is excellent—equal to that of Davos ; there are two hotels under one management and connected by a covered way. As to the proprietor, I can only say, with Dr. Main, "Herr Christian Palmy represents the Swiss hotel-keeper at his best." But let me quote Dr. Main as to Wiesen in spring. He writes from there on February 1st : "Change from St. Moritz seemed as one from winter to spring. The snow is already beginning to disappear fast and we are able, for the first time for some months, to resume acquaintance with spongy turf. Seen in brilliant sunshine this gem of the Alps looks now at its very best. As a passage-place from the heights in spring Wiesen stands without a rival. Its climate is a delicious compromise, possessing the bracing air of higher regions and the more genial balminess of lower-lying lands. When the uplands begin to be shorn of snow, it will have its steep slopes carpeted with the richest of Alpine floras and its air laden in places with the odours of the lilies of the valley, which grow in wild luxuriance

on many of its meadows." Surely this is a mouth-watering picture of a spring abode, at least to us dwellers in Birmingham with the canvass of its climate so crowded with constant changes, and these, alas ! so Plutonic that we cannot but be reminded of the various realms in Dante's Inferno, and moodily groan out with Milton's Satan, " And in the lowest deep, a lower deep still threatening to devour me opens wide."

Half-way Resting-places.—But Wiesen is by no means the only place of refuge ; the triple village of Tarasp, Schuls, and Vulpera, especially this last hamlet, is a most agreeable change from St. Moritz or Davos. It is situated in the Engadine, some dozen miles below Sûs, at an altitude of 4,300 feet, and is unusually well protected from winds of all kinds. Thusis, at the foot of the Via Mala and at an altitude of 2,448, is a good resting place ; but it is too low for a prolonged stay and is more fitted for a half-way house, either going to or coming from the mountains, than as a mere change of abode.

Promontogno, 2,687 feet, in the middle of the splendid Val Bregaglia, and half way between the Maloja and Chiavenna, has a good hotel fitted to receive patients, and is able, like Thusis, to act as a half-way house, or to receive fugitives from the snow melting in the Upper Engadine—this is only one and a half hours, eleven miles journey, from the Maloja. Just below it the road passes through a most picturesque gateway cut in the rock, which forms the upper limit of the chestnut, a fruit which forms the staple commodity of the pretty hamlet of Castasegna.

Seewis is delightfully perched above the valley of the Praettigan, about seven miles from Landquart, at an altitude of 3,000 feet ; it has two good hotels, and forms an excellent half-way house and good spring resort.

Davos and the Engadine compared.—As to the rival virtues of these various spots they may be stated in a nutshell. The Maloja has the most sunshine and perhaps the longest winter ; but it has these drawbacks : most wind, especially the föhn which rushes up the rocky rampart separating the Val Bregaglia from the

Engadine—just over the ridge of which rampart stands the Maloja Kursaal—too great nearness to the Lake of Sils with its cold damp mists.

St. Moritz has nearly as much sunshine as the Maloja, but this leaves it twenty to forty minutes earlier in the day : about 3.0 instead of 3.30 ; this is a by no means despicable difference, as it curtails the walk after luncheon. But it is much better protected from the wind and is well above any evil influence from the St. Moritzer See.

Davos Dörfli (5,160 ft.) resembles St. Moritz in its sunshine and in the amount of wind, but its accommodation is far less luxurious, a perhaps not unmixed evil, as the evening entertainments at Platz and St. Moritz very likely do as much harm as good.

Platz (5,115 ft.) has an hour's less sunshine than the Maloja, but is protected from the wind best of all, and being 950 ft. lower than St. Moritz is less stimulating and trying to the circulation. Socially, too, it easily bears off the palm : some three hundred English reside in the hotels every winter, besides others living in lodgings and private villas. It no doubt will always prove the most generally suitable to the average invalid.

Finally : my advice would be, if you are strong enough, have sufficient backbone, go to the Engadine and by preference St. Moritz : if it grow too monotonous drive over some fine day in January to Platz and spend a month in Davos : then drive down with the first approach of snowmelting to Wiesen and stay there till June when the Engadine again becomes delightful.

And thus with the same or similar variations remain up in these elevated regions for at least one year after all signs and symptoms of your disorder have vanished and return to them again on the first appearance of any fresh outburst.

With reference to phthisis I would say : many cases no doubt get well at home, even amongst the poor : I remember patients at Brompton who had paid that hospital their first visit twenty and more years previously. But in these Alpine villages the *majority* seem to improve if they do not get well ; and a far larger actual arrest takes place than in our own moist and low-lying climate.

REVIEWS.

THE DISEASES OF THE BREAST.*

MR. BRYANT'S treatise is the most recent of the well-known clinical manuals for practitioners and students of medicine, published by Messrs. Cassell, and as might have been anticipated, from the author's ability and experience in his subject, it is one of the best volumes of the series. The object he has kept in view in writing the work has been to place before the student and practitioner a clinical exposition of the abnormalities and diseases of the breast, more particularly with reference to their diagnosis and treatment. With this view the descriptions of pathological conditions are not placed in the foremost position, they are referred to only to elucidate clinical phases, and to show how the signs and symptoms of local disease are to be explained by progressive pathological processes. The book is illustrated with nineteen engravings and thirty-one chromo-lithographs, the latter being both artistic and useful.

The chapter on abnormal conditions of the breast and nipples is most interesting, and particularly that part which treats of supernumerary glands. We should like to have seen more prominence given to the therapeutic agent, pressure, in the treatment of breast inflammations.

We are glad to see special chapters devoted to "Scrofulous swelling of the Breast," and to "Syphilitic Mastitis," because, although not common conditions in our experience, they undoubtedly occur from time to time, and are seldom recognised for the reason that they have no place in the mental catalogue of the majority of practitioners.

* The Diseases of the Breast. By Thomas Bryant, F.R.C.S., M.Ch. Senior Surgeon to and Lecturer on Surgery at Guy's Hospital, &c. Illustrated. London: Cassell & Co. 1887.

The chapters on tumours naturally occupy the bulk of the volume, and the author accepts Dr. Creighton's views "that tumour disease of the breast is essentially a disorder of function." Tumours are dealt with rather from the standpoint of the clinical surgeon than of the pathologist, and in this we think is to be found the book's greatest merit. Special chapters are devoted to "adenomata and adenofibromata," "adenosarcomata," "carcinomata," and "cystic tumours," the remaining occasional growths—such as chondromata, angiomata, hydatids, etc.—being treated more generally.

A writer on such a well thrashed out subject as mammary growths cannot possibly thrill his readers by startling original truths. We are not surprised therefore to find little that is new under this head. We cordially agree with Mr. Bryant in his protest against the undue importance which is generally attached to the retracted nipple as a sign of malignancy, and of the dimpling of the skin as a feature of lipoma. His observations on that form of cystic degeneration which affects the breasts of women beyond forty years of age—often diagnosed as "cancer"—are especially deserving of attention.

The value of the book is immensely added to by special lectures on "How to Examine a Breast," "A Summary of the Diagnosis of Tumours of the Breast," "On the Presence of more than one Neoplasm in the same subject, and on the Shrinkage of Tumours," and "A Series of Cases Illustrating the Clinical Symptoms and Treatment of Carcinoma."

The author has given the profession the benefit of his long experience and unusual opportunities, and we venture to predict that practitioners will be grateful to him for it. As a book for students preparing for examinations only might fault be found with it.

THE LETTSOMIAN LECTURES.*

THREE lectures are herein contained, and their general excellence demonstrates the wisdom of the Medical Society of London in selecting this eminent provincial surgeon as their Lettsomian lecturer.

Lecture I. deals with urine fever and with the formation of stricture tissue. The first Mr. Harrison regards as due to the absorption, through a recently wounded urethral surface, of some alkaloid produced by the decomposition of urine pent up in relation with the solution of continuity. As a corollary to this he advocates complete drainage and antisepticism. The drainage advocated is by external urethrotomy even when there is no evidence that an injury has led to extravasation, and the same plan is recommended in the treatment of stricture not suitable for dilatation, sometimes in combination with an internal urethrotomy for the division of the cicatrix. Stress is laid upon the possibility of "sterilizing" the urine by administering quinine or boracic acid by the mouth, each of these being excreted by the kidneys, and thus rendering the urine less likely to decompose. Some original remarks are made on the importance of a perfect condition of the epithelium lining the urethra. In the light of the views here put forward, stricture is regarded not as a direct product of gonorrhœal inflammation, but rather as a conservative change. Gonorrhœa leads to epithelial abrasion and slight leakage of urine into the deeper tissues. As a result of this, inflammatory action is excited, and acts as a barrier to further escape into the tissues, the inflammatory new formation subsequently contracting and producing stricture.

Lecture II. is devoted to the pathology of the enlarged prostate and the treatment of some of the complications arising out of it. The prostate is here regarded as a sphincter muscle rather than a gland, the hypertrophy being a conservative

* The Lettsomian Lectures on some Points in the Surgery of the Urinary Organs. By Reginald Harrison, F.R.C.S. London: J. and A. Churchill, 1888.

process which, as in other parts, may be carried to an excess and eventually become detrimental. In those cases of difficult micturition due to an enlarged prostate and not relieved by the use of the catheter, prostatotomy is recommended, with subsequent drainage by means of a large tube. This should, if necessary, be retained for several weeks in the bladder, until the urine which flows away becomes acid.

Lecture III. is a brief review of the operative treatment of stone and tumours of the bladder during the last few years. The most important point raised is the re-formation of stone after lithotripsy. Mr. Harrison evidently believes, and we thoroughly agree with him, that owing to the facility with which small soft stones can be got rid of by crushing, not a few cases are submitted to lithotripsy when they would be much better treated by lithotomy with subsequent prolonged drainage. The bladder might then return to a healthy condition, and be in future free from calculus instead of existing as a "chronic abscess with a stone in it."

THE DEMON OF DYSPEPSIA.*

UNDER the above sensational title the author attempts to describe, in a popular form, the physiological processes of digestion and nutrition, the functional and organic derangements of the foregoing with their pathological phenomena, and the treatment of dyspepsia in general. It is difficult to define exactly the class of readers to which this volume appeals. The author's intention, as expressed in his preface, is to furnish the British public with a small work on the food supply of the human body, the means by which it is made to subserve the purposes of life, and the consequences which result from violation of the laws which rule those processes. A handy popular book, expressed in simple language, with this object in view

* The Demon of Dyspepsia ; or Digestion Perfect and Imperfect. By Adolphus E. Bridger, B.A., M.D., F.R.C.P.E. London: Sonnenschein. 1888.

might be of service to the intelligent reader who wishes to make himself acquainted with known physiological laws and to escape the consequences of ignorance ; but when a writer allows himself to enter upon descriptions of the most obscure and difficult problems in physiology and medicine, the wisdom of putting his work into the hands of the general public is doubtful. Our fear would be that it should prove a welcome addition to the already overstocked library of the *Malade Imaginaire*. To quote examples from the work in question, no mention is made of the bile-salts or the purposes which they subserve in intestinal digestion ; and yet the glycogenic function of the liver and its relation to diabetes is discussed at some length. Under tertiary digestion, such problems as the constructive and destructive nitrogenous metabolism and several hypotheses which are still *sub judice*, e. g., the hydrolytic nature of proteid and fat digestion, are advanced in the semblance of universally recognised dogmas.

Several disorders are treated at length, and the author does not hesitate to recommend medicines appropriate to each. Had he been content with the very excellent prescription for tooth powder on page 85 we should have no cause to complain, but when such potent drugs as arsenious acid, nux vomica, and codeina are commended without one word of caution, we must only trust that the non-medical reader will not dabble in pharmacology. The possibility that 15 grains of codeina daily should be taken by anyone who is ignorant of the use and action of drugs is sufficient to cause alarm. Rheumatism is assigned as a result of imperfect tertiary digestion (*i. e.* assimilation). The writer very wisely recommends the aid of a physician in the acute forms of this disease. In dealing with chronic rheumatism he does not mention the many cases occurring, chiefly among the poor, which are benefited by good living and increased comfort. On the other hand he condemns high feeding, and recommends arsenic "from its power over the vasomotor nerves," and guaiacum (*sic*) "from its special power on the skin." Guaiacum is more than once wrongly spelt.

The concluding chapters on foods, dietaries, beverages, and stimulants form the best portion of the book, and are full of useful information, given with much clearness. The work will probably please a certain kind of popular taste. It is written throughout in a pleasant style, and "hard" words are avoided as much as possible. The discursive manner in which the author treats his subject may form an attraction to some readers. Within the limits of a small handbook he finds space to discuss Homœopathy, the supremacy of the Deity, the contrast between Anglo-Saxon and Celtic character, and many other topics with only a very remote bearing on the subject of his volume.

ON TRANSFUSION OF BLOOD AND SALINE FLUIDS.*

THIS volume has reached its third edition within a period of five years. Its author's work on the subject of transfusion is well and deservedly known. The easy method which he has devised for the execution of this operation has simplified the procedure so that any medical practitioner ought to be able to transfuse a patient.

Reasons are adduced in this edition not merely to prove that human blood can be directly transfused in quantity, limited only by the amount the giver can afford to lose, and that such loss can be repaired by the intravenous injection of saline fluid, but also to show that life, jeopardised by severe hæmorrhage, can be restored even after the heart has ceased to beat, and that most cases of acute anæmia can be successfully treated by injecting a moderate quantity of saline fluid into the veins.

The value of the work is considerably augmented by a lengthy appendix in which is embodied the details of experiments and cases shewing that transfusion may be employed as a valuable curative agent in other conditions than those resulting from mere

* On Transfusion of Blood and Saline Fluids. By C. E. Jennings, F.R.C.S., M.S., M.B., Assistant Surgeon to the Cancer and North-west London Hospitals. Third edition. London: Baillière, Tindall and Cox. 1888.

blood loss ; for example, in chloroform and opium poisoning, and in certain cases of anæmia. The volume contains an abstract of a valuable address delivered by the author before the Medical Officers of the Army Medical Department on transfusion for hæmorrhage in Military Surgery. An exhaustive bibliography still further adds to the value of the monograph.

We think it incumbent on every practitioner, especially if he is engaged in midwifery practice, that he should familiarise himself with the method of transfusion which we owe to Mr. Jennings.

THE HEALTH OF CHILDREN.*

EVERYONE who has to deal with the complaints of infancy and childhood must be constantly impressed with the fact that a great deal of avoidable suffering and ill health is caused, especially among the lower classes, by ignorance and thoughtlessness respecting the needs and requirements of infants and children, and must appreciate the need there is for fuller knowledge on the part of the class alluded to. This short and popular treatise on the hygiene of childhood will therefore be welcome on account of its being calculated to meet that need.

It is concise and clear, and the various subjects dealt with are divided up in a way that makes reference to them very easy. It is, in fact, what the author claims for it in the preface, viz., "simply a contribution to preventive medicine, and, being intended chiefly for the public, it contains nothing in the way of amateur doctoring, nor any choice method of treating disease."

Not only will it afford knowledge of the way to prevent illness, but its perusal will give what is sometimes so strangely wanting in mothers and those who have care of children, namely, a knowledge of the healthy standard of infancy, thus enabling any departure therefrom to be at once recognised and

* *The Health of Children.* By Angel Money, M.D., B.S., M.R.C.P., Assistant Physician to the Hospital for Sick Children, and to University College Hospital. London : H. K. Lewis, 1888.

medical aid summoned in good time, and before any serious consequences have resulted.

It is to be hoped that this little book will command the sale which its usefulness and cheapness deserves.

MESMERISM (HYPNOTISM.)*

THIS pamphlet contains an interesting and concise résumé of many of the facts concerning the above state.

These facts are placed before the reader plainly and without bias. The language is that of a pleasantly-written, impartial report on the subject.

One amusing, and at the same time most instructive, example is the following, which the author thus mentions on the authority of M. Liébault :—"M. Liébault hypnotized a boy of considerable intelligence, but an incorrigible idler ; it was suggested to him that he must work to get to the top of his class. He rose to the top of his form, and maintained this position for several months. The suggestion then began to wear off, and, as the boy had by no means enjoyed the part he had been forced to play, he refused to be hypnotized again."

Many other interesting cases are given, several of which have occurred in the writer's own practice.

There seem to us to be two serious objections to this treatment : first, "only a small percentage of persons can be hypnotized," and, second, these are the very ones who can least afford to have their will power weakened. But this opens up a large metaphysical question for which this magazine is not suited. In some cases—such as chronic alcoholism—the good resulting may very greatly overbalance any injurious effect arising from the method.

* *Mesmerism (Hypnotism)*. By Sidney Barwise, M.B. Birmingham: Cornish Brothers, 1888.

RETROSPECT.

ON CHILDREN'S DISEASES.

BY ANNIE E. CLARK, M.D.

1. *On the influence of the season of the year on the frequency of Rachitis.*—By Dr. Rudolph Fischl (Prag. Med. Wochenschr., XIII., 4, 1888).—Dr. Fischl has observed that the number of cases of Rachitis increases steadily from January until May, when the number declines again until December. He considers that this points to the importance of fresh air in rachitis, the disease becoming most prevalent when the children are confined in close rooms.

2. *Dyspepsia and the Green Diarrhœa of Infants.* (Revue de Méd., Dec. 1887, and Jan. 1888).—Dr. A. Lesage, in a series of articles, calls attention to the importance of making sharper distinctions in the treatment of infantile diarrhœa. He makes the following classification:—

1. Acute Diarrhœa: (a) Alimentary, in which the stools are yellow, small in amount, and containing much undigested food: in these cases purgatives are indicated. (b) Infectious. The stools are frequent, yellow, neutral or acid in reaction, often foetid, and contain large numbers of microbes. Intestinal antiseptics, preceded or not, by a purgative, is the treatment for this form. Dr. Lesage considers lactic acid the best antiseptic to give. He gives a teaspoonful of a two per cent. solution every quarter hour to an hour according to the frequency of the stools.

2. Lienteric Diarrhœa.—In this the stools are white at first and of some consistency; later they are liquid, but still white, unless occasionally green with bile. Astringents, opiates and alkalies will do no good, the trouble lies in an alteration in the secretion of the

pancreas, and sometimes of the liver. Pancreatine or trypsin should be given.

3. Reflex Diarrhoea from Dentition.—The stools are serous, yellow, and do not contain food. Opiates, rhatany, and lactic acid are the best drugs for this form.

4. Green or Bilious Diarrhoea.—The stools are green and very acid. This type often occurs during the first month. Purgatives do no good. Alkalies should be given, such as Sod. Bicarb. and sometimes opiates and astringents must be added.

5. Green Bacillary Diarrhoea.—The stools, though green, do not contain bile, but a specific bacillus; they are but slightly acid. Fever is often present with it. This form is rare before the first month, and very often occurs in epidemics. Lactic acid is the best antiseptic for it.

3. *Intubation of Larynx*.—F. E. Waxham, M.D., Chicago, read a paper at the ninth International Medical Congress strongly advocating this operation. He asserts that it saves as large a proportion of cases as by tracheotomy in all ages, and a much larger proportion among children under three years of age. In proof of this he reports 1,007 cases with 266 recoveries, or 26.54 per cent. The age was recorded in 661 cases, namely, 277 patients under three years of age with 49 recoveries, or 17.68 per cent., and 384 patients over three and under fourteen years with 132 recoveries, or 34.37 per cent.

In the New York Med. Rev., Oct. 29th, 1887, Dr. O'Dwyer gives a table of fifty cases of croup, in private practice, treated by intubation of the larynx, with a description of the method and dangers incident to it. In no case was intubation resorted to until the dyspnoea was so urgent as to indicate impending suffocation. Of the fifty cases twelve recovered after wearing the tube for a time varying from two days to ten. The average time in favourable cases was about five days; but age must be considered in determining the removal of the tube—the younger the child the longer it will need the tube.

When loose membrane exists below the tube—indicated by

a flapping sound with a somewhat croupy cough—the tube must be left in position until the membrane has had time to dissolve and disappear. The tube should be removed whenever urgent secondary dyspnoea occurs. Each attempt at introduction of the tube should be limited to ten or fifteen seconds, or there will be danger to the patient of apnoea.

Coughing out the tube before the stenosis has been permanently relieved is seldom attended with danger, as the dyspnoea is usually relieved for some hours. In one case in which the child swallowed the tube it was passed per rectum the third day.

Among the difficulties and dangers of the operation which Dr. O'Dwyer points out is the difficulty of performing it, which, unless unusual manual dexterity and knowledge of the anatomy of the parts is possessed, can only be overcome by frequent practice on the cadaver and the digital examination of the larynx of healthy children. Without this skill and knowledge, even if the operator succeeds in inserting the tube, he risks either injuring the soft parts or perforating the trachea, and will have difficulty in extracting the tube, especially when the head of it rests low down in the larynx.

There is also the danger of peeling up and pushing the membrane down ahead of the tube and thus occluding it, in this case the tube must be immediately removed, when, if the membrane is not ejected, the trachea forceps devised for the purpose may be introduced and the membrane removed, or tracheotomy must be performed.

The tube may cause difficulty in swallowing, which can be met by great care in the selection of the tube, which should always be too small rather than too large a tube; the food given must be semi-solid. The employment of a tube with an artificial epiglottis is also of great service in swallowing.

CARDIAC DISEASES.

BY EDGAR HOGBEN, B.A., M.D.

The Presystolic Murmur.—An accepted canon in cardiac medicine has recently been made the subject of attack at the hands of Dr. Dickinson. The discussion upon the method of production of the presystolic murmur has been generally regarded as finally settled in the view that the sound is generated at the mitral orifice by the systolic movement of the auricle, and that it preceded both the systolic movement of the ventricle and the natural first sound of the heart. In an able paper in the *Lancet*, 1887, vol. II., pp. 650, 695, Dr. Dickinson combats the accepted explanation. He believes that the ordinary presystolic bruit is really ventriculo-systolic in point of time on the grounds that both the murmur and thrill may be demonstrated to be coincident with the early part of ventricular systole. Besides the often advanced objection that auricular contraction is too weak and brief to cause the loud, harsh, characteristic bruit in question, he also points out that in the case of double mitral disease, obstructive and regurgitant murmurs which ought to be distinct are inseparably blended, the presystolic running continuously into the systolic. In this connection he contrasts the double murmur in lesions of the aortic valves, in which case the two murmurs are separated by a short interval corresponding to the point of time at which the reversal of the blood current takes place. He describes the characteristic R-r-r-p (so called pre-systolic) murmur as indicating regurgitation through a stenosed but ultimately closing mitral orifice, and he recognises the true mitral obstructive murmur which accompanies ventricular diastole and follows the second sound of the heart as the only true auriculo-systolic.

On the other hand, Dr. Bristowe entirely accepts the orthodox explanation of the production of the presystolic murmur, and in a paper contributed to the *Lancet*, 1887, vol. II., pp. 952, he vindicates its position as auriculo-systolic, and he points out at the same time that the murmurs of obstructive mitral disease, of

which there are three, viz : early, middle, and late diastolic, may be regarded as parts of a potential murmur filling up the whole diastolic period. "They are the fitful, and in a sense accidental, roarings of a continuous torrent."

Failure of the heart in valvular disease.—Dr. Mitchell Bruce, in the Practitioner, Jan. 1888, discusses the etiology, prognosis, and treatment of a train of symptoms of cardiac distress which is regarded as evidence of the occurrence of failure of the heart. Among the causes of imperfect compensation he enumerates : (1) muscular overwork ; (2) nervous causes ; (3) imperfect blood supply, either from a general impoverished condition of the blood, or from disease of the coronary arteries ; (4) the occurrence of intercurrent maladies, more especially rheumatism and lung diseases ; (5) causes peculiar to women ; (6) cardiac poisons ; (7) increase of the valvular lesion from a fresh accession of endocarditis ; (8) the limit of compensation. The prognosis of course varies in individual cases, and the author deprecates routine methods of treatment.

Presystolic murmur in cases of Aortic Regurgitation without mitral lesion.—Some years ago, Dr. Austin Flint called attention to the occurrence of a presystolic murmur in the mitral area in certain cases of aortic regurgitation without mitral lesion. His explanation of the clinical fact was that the regurgitant stream caused a complete closure of the mitral orifice by floating up and approximating the valvular curtains, and that the mitral direct stream in passing between the curtains thus brought in contact throws them into vibration and gives rise to the characteristic "blubbery" murmur. Dr. Byrom Bramwell, in the American Journal of the Medical Sciences, March 1888, records a case of aortic regurgitation with a presystolic thrill and murmur in the mitral area. He is persuaded that no mitral stenosis existed in the case from the fact that cardiographic tracings showed a rapid elevation of the lever after the diastolic fall with the production of an unusually large wave in the diastolic portion of the tracing. This large wave, according to Dr. Bramwell, suggests that the rapid filling of the left ventricle was not merely due to aortic regurgitation, but was in

part caused by the blood stream being forcibly driven through a normal or *dilated* (but not *stenosed*) mitral opening. Relying upon this evidence, and also upon the fact that the diastolic part of the tracing was not prolonged, Dr. Bramwell concludes that the patient had no organic lesion of the mitral valve. In the absence of a *post-mortem* examination, which was not obtained in this case, it is difficult to estimate the exact value of cardiographic tracings as clinical evidence.

Severe Endocarditis.—Dr. Sansom (Practitioner, Jan. 1888) records a case of severe endocarditis in which the disease was found *post mortem* to take the form of vegetations with numerous micrococci fringing the free edges of the valves in both the right and left cavities of the heart. He detected during life a patch of pneumonia at the base of the left lung, and he concludes that the lung was the path by which the micro-organisms obtained an entry to the blood. He believes with Netter that the microbe of pneumonia (pneumococcus) may set up a definite form of ulcerative endocarditis, which he calls “pneumonic,” and he claims for it a definite clinical history.

Leukæmia in Pregnancy.—Professor Cameron, of Montreal, details a remarkable case of leukæmia occurring in a pregnant woman. The splenic enlargement was first noticed by the patient at the beginning of her sixth pregnancy. As pregnancy advanced there was an enormous increase of white cells with a decrease of red, the white being to the red 1 : 20. During labour and the puerperal period there was no uterine hæmorrhage. The blood in the placental vessels and sinuses was examined with the result that the white corpuscles were found in excess. The mother made a rapid recovery, the red cells increasing in number again, and subsequently became pregnant again. The blood of the child was examined shortly after birth and the white corpuscles were found to be in the proportion of 1 : 175, whereas the mother's blood at this time was white to red 1 : 4. The child was apparently strong and healthy, but it died on the fourth day after birth from an attack of vomiting and purging with purpuric eruption. The illness was attributed to the fact that the mother had clandestinely suckled the child at her own breast. The

autopsy on the infant showed that all the blood glands and the bone marrow were healthy. A remarkable feature in the case was the woman's family history. Her grandmother, mother, and brother suffered from symptoms pointing to leukæmia, and two of her own children had well marked leukæmia with diminished red cells and enlarged spleen.

Pregnancy and Heart Disease.—Professor Jaccoud has treated this subject in his last volume of cliniques. A point of great interest is the question whether the medical adviser ought to prohibit marriage in the case of young women affected with organic cardiac lesions. Jaccoud divides cases of this sort into two groups. In the first the valvular lesion, though it is manifested clearly by physical signs, yet never produces any consequences; under these conditions the person should not be prevented marrying if she desires. In the second group the lesion has already produced serious complications. Even then he says there is no absolute rule to be laid down. The nature of the complications must be taken into account. If they are pulmonary the case is more serious than one of œdema simply or hepatic congestion. Moreover, the manner in which the patient has borne up against the complications must be considered as well as the more delicate question, the effect prohibition will have upon her in case that she is particularly desirous to enter the married state. The conditions under which the woman will pass her pregnancy must also be taken into account. If she is obliged to work for her living, and to endure fatigue, there ought to be no hesitation in forbidding marriage.

NEW INVENTIONS, DRUGS, ETC.

PRIZE STUDIES OF TORNADOES.—The American Meteorological Journal, desiring to direct the attention of students to tornadoes, in hopes that valuable results may be obtained, offers the following prizes:—For the best original essay on tornadoes or description of a tornado, \$200 will be given. For the second best, \$50. And among those worthy of special mention \$50 will be divided. The essays must be sent to either of the editors, Professor Harrington, Astronomical Observatory; Ann Arbor, Michigan; or A. Lawrence Rotch, Blue Hill Meteorological

Observatory, Readville, Mass., U.S.A., before the first day of July, 1889. They must be signed by a *nom de plume*, and be accompanied by a sealed envelope addressed with same *nom de plume* and enclosing the real name and address of the author. Three independent and capable judges will be selected to award the prizes; and the papers receiving them will be the property of the Journal offering the prizes. A circular giving fuller details can be obtained by application to Professor Harrington.

MESSRS. BURROUGHS, WELLCOME & Co. have sent us specimens of (1) *Soluble Saccharin*, a substance fully deserving of its adjective. It is sent out in a small flat bottle suitable for the waistcoat pocket and has a screw-cork to which is fastened a tiny spoon for its administration. Two or three of these spoons full we find quite sufficient for a cup of tea. (2) *Antipyrin Tabloids* (gr. 5). These form a most convenient method of administering this drug. We have several times proved their efficacy in attacks of migraine and have found it most useful to have the drug thus immediately available. (3) *Prescription Book*. This is a duplicate prescription book of somewhat novel description. The novelty consists in the cover (case) being permanent while the contents can be frequently removed and filed. This allows the whole book to be much thinner and more suitable for the pocket, and also renders reference more easy.

New Books, etc., Received.

- A Text Book of Physiology. By JOHN GRAY M'KENDRICK, M.D., LL.D., F.R.S., Professor of the Institute of Medicine in the University of Glasgow. Two volumes. Vol. 1., General Physiology. Glasgow: James Maclehose and Sons. 1888.
- The Treatment of Hæmorrhoids by Injection of Carbolic Acid and other substances. By SILAS T. YOUNT, M.D. Second edition. Lafayette, Ind., U.S.A.: The Echo Music Co. 1888.
- Infanticide: an Inquiry into its causes, and their remedy. By FRANCIS VACHER, F.R.C.S. Reprint. Prov. Med. Journal. 1888.
- Report on Summer Diarrhoea in Leicester. By H. TOMKINS, M.D., B.Sc. Reprint. Leicester Annual Health Report. 1887.
- Introduction to the Study of the British Pharmacopoeia. By RAWDON MACNAMARA. London: Lewis. 1888.
- Lupus Vulgaris. By BALMANNO SQUIRE, M.B. London: Churchills. 1888.
- Annual of the Universal Medical Sciences: a yearly Report of the progress of the general Sanitary Sciences throughout the world. Edited by C. E. SAJOUS, M.D. and 70 Associate Editors. Illustrated with Chromo-Lithographs, Engravings and Maps. Five volumes. Philadelphia and London: F. A. Davis. 1888.
- Report of The Lady Aitchison Hospital. For the half-year ending 30th April, 1888. Lahore: Civil and Military Gazette Office. 1888.
- Report of Charing Cross Hospital for 1887. London: E. Norman and Son. 1888.

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BRITISH MEDICAL ASSOCIATION.

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I HAVE taken for the subject of my address, one which has interested me for a considerable time. It is "The Social Position of the Medical Profession in this country at the present time." In contrasting the position which is held by the Medical Profession in social estimation, with that of the other learned professions, I think it will be admitted that we do not stand as high as either the Bar or the Church ; and yet the attainments of the members of our profession, their character, their self-denial, and their public services are acknowledged on all hands, and should command for them a respect as high as that in which any other profession is held. In former times, it seems as though the great consulting physician was held by all classes in greater respect than he is at present. Even as far back as the days of Homer, Machaon, the army surgeon of the Greeks, was spoken of in the following terms :—

Ἰητρὸς γὰρ ἀνὴρ πολλῶν ἀντάξιός ἄλλων,

which Pope has rendered thus :—

"A wise physician, skilled our wounds to heal,
Is more than armies to the public weal ;"

while it is undoubted that the rank and file of the profession are now held in much greater respect than they were in any previous portion of our history. I suppose this is to some extent explained by the fact that medical education, such as it was in former times, was almost exclusively confined to the higher ranks in the profession. In the present day the education of the medical man is pretty much the same for all ranks; *i.e.*, his professional education, and the marked difference which formerly existed is no longer found. For the convenience of the public, as well as for our own, our profession may be considered to be divided into the following ranks:—The pure consultant, the specialist, and the general practitioner. No formal division of these ranks has ever been made by law, and can be hardly said to be sanctioned by custom. And yet I think that such a division is pretty clearly recognised within the profession itself: and it would be better if the public could be induced to more clearly recognise the convenience of these distinctions. Not that there is any difference, except that of accident, between many of those who are acting in the different divisions of the profession, for it often happens that the general practitioner is a more accomplished man in many branches of his art than the specialist to whose assistance he frequently resorts, while it certainly is the case that many of those who fill the rank of consultants are able to do so from the fact that they have started in the race of life under greater pecuniary advantages than their fellows. Still, I think that the recognition by the public of these divisions will, in many instances, assist to elevate the social consideration in which the profession is held. Quite recently we have been taught to divide the people of this nation into two great divisions—"the classes" and "the masses." The confidence which is bestowed upon the medical profession comes in equal proportions from both, while the rewards of public service which are at the disposal of the first are mainly withheld from our profession. Much of the restraining and disabling legislation which has afflicted us comes from that class of the community which has more to do with

the making of laws than the other ; and it is certainly true that the estimation of our profession is lower in the minds of the "classes" than in the minds of the "masses." But while we may justly complain of this, we must not be wholly blind to the fact that even in the "masses" there is with regard to our profession a jealousy of its privileges and a constant and increasing desire to obtain our services for inadequate remuneration. Why is it that so many of the more educated classes of this country are found supporting anti-vivisection crazes, rebellion against vaccination laws, outrageous quackery of all kinds? And the answer is that it arises from ignorance and conceit, and is a part of that universal fight which has at all times, and will to all time, go on between light and darkness. The support which is accorded to quackery must be well known to most of us. The fortunes which have been made by quack medicines, by medical rubbings, by applications of electricity in all its various forms, by such delusions as have been practised by Count Mattei, by bone-setters, and by various other impostors, show us how utterly ignorant even the educated classes are of the first principles of physical science. On the other hand, the support which is extended to quackery by the least educated classes is due to some extent to their jealousy of our so-called privileges.

But, to sum up, I may say that the general low estimation in which our profession is held is very largely due to the before mentioned causes, and also very greatly to our own faults. And I shall now arrange our own faults under the following headings.

The first is,—Imperfect Preliminary Education.

The fact that anybody can become a registered medical student merely on having passed a second grade examination of the College of Preceptors, and that anyone between the ages of sixteen and seventeen years can, if they choose, drop for ever all learning except that which is specially set apart for the acquisition of professional knowledge, leads to the introduction into this profession of a very large number of men who, I do not hesitate to say, are more imperfectly educated in a general sense than

the aspirants to any one of the other learned professions. And here I may say that I think the entire abolition of the apprenticeship or pupillage system has been a mistake ; for I cannot think it wise that a boy should go straight from school into a life so full of manifold temptations as is that of a medical student. A year passed in the family of a medical man in large practice would greatly widen the student's ideas, and add largely to his obtaining a truer conception of the duties he is about to undertake. Narrow though his education may be as compared to that of a medical man, it cannot be denied that the young curate has a much better social position at the outset of his career than the young physician or surgeon, while it is quite certain that the position of the young physician or surgeon is not comparable with that of the most junior member of the Bar. This, I believe, to be largely due to the more prolonged and complete preliminary education necessary for the Church and the Bar.

The second reason of the low estimation of our profession is, I think, the imperfect professional education which so large a proportion of our number receive, though I must admit that this is improving day by day. And yet, when one looks at the vast domain of medicine, one is lost in wonder as to how it is possible, in the short space of four years or less, to get anything like a concise knowledge of the subject into a young fellow's head.

The third reason that I shall give is,—Professional Quackery and Dishonesty. Those of us who have been any time in practice must be well aware that quackery is not to be found wholly outside the profession. Perhaps it will be as well to define what I mean by "Professional Quackery." I should say then that a man who is constantly using new remedies without having sufficiently tested their efficacy and at the same time is unscrupulous in his disparagement of his professional brethren, is practising the two chief arts of the quack. Do we not all know the man who is constantly asseverating to his patients that but for his own special skill and attention the case must

inevitably have gone to the bad?—the man who lavishes special attention upon servants in order to obtain the patronage of their masters and mistresses?—the man who carries about with him bags full of instruments of precision, the nature of which he carefully explains to the gaping friends?—and the man who is constantly prescribing remedies which no ordinary chemist can dispense, because they have just been invented or just been brought over in three ships? If the art of the quack is, as I have said, to pretend to a knowledge which he does not possess, to be constantly disparaging the art of others, and to be using remedies whose utility is not proven or is at least mysterious—then we must admit that there is plenty of Quackery within our ranks. And do you think for one moment that an intelligent public does not see through this dishonesty?

My next cause is—Professional Jealousy, and believe me, gentlemen, this is one of the most potent causes for the low estimation in which our profession is held. I need go no further than the daily papers for the last six months “to point the moral and adorn the tale”—to show what dire consequences arise in public estimation, when dirty professional linen is constantly washed in the public gaze. Does a man acquire an illustrious patient? his neglected rivals make little hesitation about disparaging him in public; and few of us indeed refrain from that which Pope so well expresses:—

“Damn with faint praise, assent with civil leer,
And without sneering, teach the rest to sneer;
Willing to wound, and yet afraid to strike;
Just hint at fault, and hesitate to like.”

Does a man make a great success in professional life, it is seldom but that whispers are heard among his own compeers, that it is to luck and chance, and not to merit that he owes his advancement! If there is any great public cause before the world, in which doctors are concerned, has it not passed into a proverb that you can get as many to take one side as you can to take the other? Our quarrels in law courts are such that any leading counsel will tell you that medical testimony is of little or no avail when anything like disputed points arise; and even

when one of our less fortunate brethren makes a real mistake or a real social *faux pas*, it is common enough that his bitterest assailants are found within the ranks of his own profession. Is it possible that we can blind ourselves so far as to believe that these things are not supremely damaging to our social estimation?

The fifth cause of want of estimation on the part of the public is, I think, the exaggerated importance which we give to that which the public can never be got to understand, and what we call "professional etiquette." Professional etiquette is looked upon by the public with almost the same distrust and the same sense of mystery that they show towards the Mosaic law among the Jews, and I think this is largely owing to the exaggerated importance which we ourselves give to this so-called professional etiquette. If we could once realise that the only basis of true professional etiquette is always, and on all occasions, to do towards our professional brother what we should like him to do towards us were he in our place, we should then, I think, escape from this reproach of having amongst ourselves a code of laws which is "not understood of the people," and which is believed by them to be made entirely for the benefit of the members of the medical profession at the expense of the public. It is short-sighted policy on our part, I am sure, to surround with difficulties the natural wishes of our patients to resort to consultations and further advice; and the difficulties which we so often place in their way are a constant source of distrust and dislike by them of us. The evident jealousy with which so many of us meet the caprice and disloyalty which is so natural on the part of people in distress, is another source of distrust, and again I say that the golden rule of "doing unto others as we would they should do unto us" ought to contain the whole body of medical etiquette.

In the presence of this large meeting of members of the profession of the Midland Counties, it little behoves me to speak of another cause of want of consideration on the part of the public, but I must say that the want of cohesion among ourselves, and the want of *esprit de corps*, the presence of which is so

marked in many of the sister professions and the absence of which is common enough in our own, makes us of less public estimation than we deserve. Another cause is one which five years ago was so well, so eloquently, and so wisely pointed out by Sir Walter Foster in the chair from which I now speak. In that splendid address he gave on the "Political Powerlessness of the Medical Profession" he pointed out, better than I can ever do, how the want of public spirit outside of our own immediate professional avocations, has largely influenced the public estimation of us, and he counselled in more eloquent words than I possess, and he has in his own person more illustriously set the better example, and has shown how devotion to public duty does secure public esteem.

In the first part of my address I alluded to the fact of the increasing desire on the part of the masses to obtain the services of our profession for decreasing and utterly inadequate remuneration. The multiplication in our midst of certain Provident Dispensaries, and Amalgamated Clubs, and of Private penny Dispensaries of all kinds, together with the abuse of the Out-patient departments of hospitals, which is permitted wherever a hospital is found, have tended, and are tending, largely to reduce the legitimate rewards of our labours. It cannot be right that such vast masses of the population, who, many of them, are raised by their wages, or salaries, or earnings greatly above the level of necessity, should by combination be enabled to obtain skilled medical attendance and medicine at an average rate per person of three shillings or four shillings per annum. The principle of co-operation and association, whether applied to medicine or to any other profession, which secures to the public the supply of a daily need, is obviously a good one, and is one which the medical profession at large should countenance and further, but certainly *under conditions*. The application of the principle of unlimited competition in such matters as these cannot but lead to the degradation of the profession, and to disaster to the public.

There is another point to which I should like to allude,

is not a matter of difficulty here & about it. The assumption of the verities which we are so rapidly endowed confuses the truth and creates a misunderstanding among ourselves. The subject is one of some interest as well as of difficulty, but it can be dealt with by the application of the principle of honesty, and believe me were this principle fully applied the estimation in which we are held in relation to this rather small matter would greatly rise. It should be my more honest to assume one line of thought than it is to assume another unless in either case there is a equal right in it all. And yet many of us would hesitate before assuming a line of thought which we do not hesitate to assume lines of thought in which we have no right. The point in many cases is quite aware of this state of things, and forms its judgment accordingly.

Now these thoughts which I have laid before you lead me to make some suggestions. First is it not possible to largely improve the preliminary education of the young members of our profession? Are we not making them to some extent one-sided by the almost exclusive devotion which is given to the scientific side of their education to the exclusion of the more general and literary? I am one of those who still believe that a good classical education is a priceless possession, and that it in no way interferes with the subsequent development of the power of scientific observation which necessarily lies at the root of all success in the difficult art of medicine. In the old time, when certainly the cultivated physician was of higher social esteem than he is at the present moment, the fact that he had generally received a classical education led to his better social position. And I should like to quote to you the words of one of the older physicians on this subject:—"The point on which I presume to insist with most earnestness is the necessity of a preliminary strict and virtuous education. Having been taught to search for truth, the mind is better prepared to look for it and to find it. To embark in an undertaking which requires so much thought as the attempt to unravel the perplexities of disease without having learned the first principles of

reasoning, can lead only to empiricism or the practising upon receipts ; and when that profession is to be exercised in the very interior of domestic privacy, unless the bad propensities of our nature shall have been subdued and kept under severe habitual control by moral discipline, there will be danger perpetually of bringing the whole faculty into disrepute. Let these first principles be acquired carefully, and let the student's mind be taught to expand and enlarge itself by a knowledge of the wisdom of former ages. Let him converse with Plato, Aristotle and Hippocrates, as Freind and Mead and Warren and Heberden and Sir George Baker did ; and let reason and the moral sense, enlightened and strengthened by religion, have gained a firm ascendancy and rule over the passions. Let him be careful to adopt the sentiments and the manners of a gentleman, by preferring such associates as are distinguished by their elevation of mind, their sound principles, and their good manners. The latter have been classed among the minor virtues, and are better taught by example than by precept. It is indifferent to me where these acquisitions shall have been made, whether in our universities or in foreign schools ; for I am not so illiberal as to conclude that nothing Attic can be taught *without* the walls of Athens. I know, however, that in our own universities good men are to be found who are as incapable of an ignoble sentiment as of an unbecoming demeanour ; and that sound learning, such as will capacitate a man as well for the highest employments in the State as for the less ambitious pursuit of our useful profession, and the most efficient systems of moral discipline, are taught and practised. And if they must yield to the capital in the larger facilities afforded here of acquiring a familiarity with disease, and a knowledge of the practice of physic, be it so—their merit is not diminished by this consideration ; for when the appetite for the knowledge that is wanted has been sharpened by the air and wholesome habits of the universities, if it does not find the food it desires there it will migrate in search of it, into whatever regions it is most likely to be found. Harvey went to Padua,

Mead to Utrecht, Sir George Baker to Leyden; and those physicians of later times, who, fired by the light of these brilliant examples, have endeavoured to tread in their steps, have sought, after due preliminary study, their physic in the successive schools of celebrity as they have been eminent in their turn; and so has there never been wanting a succession of learned and able men, who have been distinguished by their great attainments, and have added a dignity to our profession, which has raised it pre-eminently in England above the consideration which it obtains in any other country in the world. *Esto perpetua.*" These words of Sir Henry Hallford appear to me to be as true in the present day as they were when they were uttered, and if there is one thing which will rejoice me more than another it will be the better preliminary education of the student of medicine. With regard to professional education, so far as it goes it is a vast improvement on anything which has ever yet been done, but I hope that it may be still further improved, and this can only be done by materially lengthening the ordinary curriculum. Several of the countries of Europe, inhabited by people who are supposed to be not so progressive or intelligent as those who inhabit this island, have determined by law that five years is the shortest possible time in which to manufacture an intelligent and safe medical practitioner. If the standard of professional education is to be maintained at its present level, or is to be by imperceptible degrees raised still higher than it is at the present time, it is quite certain that the ordinary human being who has the misfortune to become a medical student, will in most cases be made by repeated rejections to increase his term of preparation to five years; and should this be the case, as it seems likely to be, I hope that before long that five years will be the rule and not the exception. I think, too, that there is opportunity for improving the clinical education of medical students, for when one sees the vast mass of clinical material which is running to waste in our county hospitals, and in our union workhouses, one is tempted to exclaim against the criminal extravagance which permits it. If

we are to recover public esteem to the extent we undoubtedly deserve, we must cast away from us professional quackery and professional dishonesty, and, more than all, we must cultivate a condition of things in which professional jealousy will be visited with those social penalties among ourselves, which are alone able to curb and check these very human failings. Let us also cultivate more friendly intercourse, more *esprit de corps*, and more general cohesion among ourselves. It is trite but true that the public will take us at our own estimation, and if we are perpetually quarrelling, and perpetually showing our differences, we shall be exposed perpetually to the scorn and derision of the outside world. Let our professional etiquette be simplified, and let its main principles be always the consideration of our duty towards our neighbour, and, above all things, let us avoid public quarrelling and public differences. I do hold most strongly with Sir Walter Foster, who says that though the excuse given to explain our absence from the duties of public life is our absorbing interest in a most laborious profession, yet it is, though a good one, more or less a species of selfishness; that in many instances it arises from a want of independence of character; and that until medical men will take their share, and their fair share in that which is becoming day by day more and more the duty of all good citizens, they must expect those of the citizens who do submit to the heat and burden of the work, to estimate lowly, and even to despise those who shirk it. Our colleges may largely help to enhance the public estimation of the profession at large and they will do so when they admit the principle that they owe a duty to every member of their body which they can never fulfil so long as they remain the close, conservative bodies they now are. A large infusion of the democratic spirit into our medical corporations; and free admission of all members and licentiates to the governing body, will alone enable these Corporations to take up and to use those duties of *discipline* and *censorship* in the exercise of which, up to the present, they have been so lamentably deficient.

There can be no doubt that the establishment of late years within our midst of so many Associations, dispensaries, and clubs, the members of which are submitted to no test whatever as to their pecuniary position or the amount of their incomes, and who yet receive in such enormous numbers, medical attentions and medicines for preposterously inadequate sums, has led, and is leading to a lower social estimation of many of the rank and file of our body than that in which they would have found themselves otherwise. Possibly the establishment of these dispensaries and Associations has been rendered necessary by the gross abuse which has arisen in the management of the Out-patient departments of hospitals. In the hurry of seeing a large number of patients in the Out-patient room of a hospital, no physician or surgeon can be expected to take into consideration the general appearance, as to solvency or the reverse, of the patients he is called upon to treat. If such an investigation is necessary, as I believe it to be, it must be done by the administration of the hospital: but it very seldom is so done, hence the abuse of this system, and the constant relief in hospitals of large masses of people who are perfectly able, and ought to be made by some kind of system, to relieve themselves. In hospitals we throw the onus of the remedy upon the Administration, but physicians and surgeons attached to hospitals themselves, could do much, if they would, to remove this great blot from the hospital system. There is not quite the same excuse for men who will take appointments in connection with clubs and dispensaries, unless the excuse of "competition" is alleged. And here, I may say, that combination among ourselves, that cultivation of *esprit de corps*, and that an acknowledgment that we are to some extent our brother's keeper, will enable us by degrees to correct this system, which appears to me to be eating out the hearts of general practitioners in large towns; and to be one fruitful source of the low estimation in which medical practitioners are held.

The practice, which is common enough within the ranks of our profession, of what may be called an exaggerated specialism

is one which does not enhance our reputation or altogether improve our social position. I am aware that this is very dangerous ground to tread upon, and I am particularly desirous to avoid giving the slightest offence to those representatives among us who not only adorn the art of medicine, but who, by their skill and their labours, greatly enhance the sum of human happiness. But, gentlemen, we all know that there are specialists of another kind, with whose specialism there is mixed not a little quackery and considerable dishonesty. I might speak to you of many specialisms, the restricted field of which cannot give a man an opportunity of making a sufficient income unless he does so by either inducing his patients to pay him, or himself pay them, needless visits, in order that he may apply instruments of precision and wonderful apparatus to remote organs or to out-of-the-way parts of the body. These dishonesties are in the long run found out by the more intelligent of the public, and though it may be profitable, what honest man among us cares to live by practising exclusively upon the follies of the ignorant?

There is one more point concerning which I think I ought to say a few words, for I think that no one can doubt that it has had, and still has, a great influence on the social position of our profession. The attitude of the profession as a whole to those who choose to practise special systems, and to label themselves with distinctive designations, has led a certain section of the public to take an unfavourable view of our position with regard to them. The correspondence which has lately appeared in the *Times* under the heading "*Odiū Medicū*" has not, I think, enhanced the position of our profession in the eyes of the more intelligent of the public. I am not here to make the slightest excuse for the practitioners of homœopathy, nor do I wish to defend in any way the position which the practitioners of that system have chosen to take up, but I submit that though "hard words break no bones," wholesale insinuations of incapacity or fraud do not, and cannot redound to the credit of our profession at large. I

deplore most sincerely the discussion of such matters in the public newspapers, and I sincerely hope that no medical man who respects himself, will condescend to an anonymous correspondence, however telling and witty it may be, even though the columns of the *Times* are open to him. And now gentlemen, having spent, as I think, a sufficient time in endeavouring, however feebly, to show how we ourselves may improve our social position, and perhaps do some little to wipe off the slur cast upon us by a poet in our own ranks when he wrote these lines :

“ Like a port sculler one physician plies,
And all his arts and all his skill he tries ;
But two physicians, like a pair of oars,
Will waft you swifter to the Stygian shores.”

I should like to utilise the remainder of the time at my disposal in quoting first of all some of the opinions which have been uttered by various great minds as to the future of our profession ; and in pointing out how we ourselves may hope yet to see a vast improvement in it. The profession of medicine may not be appreciated as it should be politically, socially, or commercially ; it may not be recognised by the State in the shape of State rewards, and this may be some reason why it is not appreciated as it should be by the public. It has been pointed out over and over again that there is no item in the expenditure of a household more grudgingly bestowed, and more liable to be questioned and more tardily settled, than the doctor's bill. One of our greatest statesmen has said : “ Your profession has a great future before it, and I believe that in one generation, or at most two, it will be far in advance of the other learned professions.” Lord Bacon said of the pursuit of knowledge that “ it is not a couch whereon to rest a searching and a restless spirit,” or “ a terrace for a wandering and fiery mind to walk up and down with a fair prospect,” or “ a tower of State for a proud mind to raise itself up,” or “ a fort and commanding ground for strife or contention,” or “ a shop for profit or sale,” but it is a rich storehouse for the glory of the Creator, and for the relief of man's estate. Thomas Carlyle has said : “ I have often said what profession is there

equal in true nobleness to medicine? He that can abolish pain, and relieve his fellow mortal from sickness, he is indisputably the usefulest of men. Him, savage and civilised will honour; he is in the right, be in the wrong who may. As a Lord Chancellor, under one's horsehair wig, there must be misgivings; still more as a Lord Primate under one's cauliflower; but if I could heal disease, I would say to all men and to angels, '*en' ecce*'." Another living celebrity has said: "When we regard the rapid and marked progress which our art and science has made during little more than half a century, I feel that we are fully justified in believing that progress in the future will be even more remarkable, and that with materials for investigation in abundance, with willing and able workers, there can be neither fear nor doubt for the continued advance of the healing art."

Taking a true view of our profession, there is every reason to believe that its progress will be rapid, and that the estimation in which it will eventually be held will be almost beyond conception; that it will become the true priesthood of men; and that it will aid with other teachers in pointing out to man that the cause of his miseries is his own ignorance, and the wilful breaking of those inexorable laws which rule and guide the universe, and that his future is in his own hands, and can only be spoilt by his own faults. Let us all set before us a high and noble standard, and remember that one of our own body has said that "the end of life is *to be* and not *to get*." Let those of us who are teachers, teach always up to noble ends and purposes, discarding all ignoble thoughts of mere utilitarianism, or of what will pay.

Let those of us who are practitioners of whatever grade, remember that Hippocratic oath which was the standard of ancient times, and may yet be taken to be the standard of modern times, if we add to it those graces which may be considered to belong to a Christian gentleman. This Hippocratic oath is probably known to all of you, but I will take leave to quote it:—"I swear by Apollo the physician, and Æsculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and

this stipulation—to reckon him who taught me this Art, equally dear to me as my parents, to share my substance with him, and relieve his necessities if required, to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation ; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest such counsel ; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practise my Art. I will not cut persons labouring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption ; and further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men in all times ! But should I trespass and violate this Oath, may the reverse be my lot !”

This, which was the standard of professional ethics among our ancient Greek brethren, may even yet furnish us with a standard for ourselves, but let us further add to it the main principles of that more noble system of morality, which, taught by the Divine Son of the carpenter on the shores of the Sea of Galilee, eighteen centuries ago, has been the guide, the solace, and the light of nearly all the great minds in our profession

since. If we take these principles, and those enunciated by Hippocrates, the father of our art, if we remain but true to ourselves, then shall be seen that honouring of the physician which the Preacher recommends to us in the words, "Honour a physician with the honour due unto him for the uses which ye may have of him ; for the Lord hath created him, for from the Most High cometh healing ; and he shall receive honour of the king. The skill of the physician shall lift up his head, and in the sight of great men he shall be in admiration." And this honour, I venture to prophesy, will be the distinguishing mark of our profession in the future, due alike to its education, to its high character, to its unstained charity, to its usefulness, and to its knowledge.

THE ENLARGEMENT OF THE LIVER IN RICKETS.

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It has long been recognised that the disease which we call Rickets is not primarily a disorder of the osseous system. The affection has been referred by most pathologists to a state of general mal-nutrition which is produced by various anti-hygienic conditions to which the child has been subjected. The bony skeleton at the period of infancy and childhood is of all the organs of the body that which is making the most rapid strides of development. When the digestive and other physiological functions of the young child have to be performed under prejudicial circumstances it is natural to expect that the formation of his bones should be retarded or proceed at least in an irregular manner. The pathological histology of the process of ossification in rickets has received the most careful attention at the hands

of pathologists. There are, however, organs in the body other than the skeleton which are more or less affected in this disease. Many years ago Sir William Jenner, and subsequently Dr. W. H. Dickinson and many others pointed out various changes in the muscles and ligaments, the teeth, the intestinal canal, the liver, the spleen, the kidneys, the lymphatic glands, and the brain. The fact that the liver and spleen are sometimes enormously enlarged in cases of rickets has been long known, and the minute changes which they undergo have been studied with some detail, more especially by Dr. W. H. Dickinson.

It is my desire on the present occasion to record the results of a few histological observations I have made in the Laboratory of Queen's College on cases of enlargement of the liver, supposed to be due to rickets. I am indebted to the Resident Medical Officers of the Children's Hospital for the opportunities which they have afforded me of inspecting the bodies of children who died from this disorder or from some intercurrent affection. For microscopical investigation I selected the viscera of children in whom there were well marked external signs of rickets, and I avoided as far as I could subjects in whom there was a suspicion of syphilis, tubercle, and other recognised causes of structural change of the liver. I have *post mortem* notes of at least five well marked cases of rickets in which it was agreed that there was a considerable enlargement of the liver and spleen. The causes of death were variously set down as burns, diarrhoea, diphtheria, and bronchitis. The appearance of the liver varied somewhat in the different cases, but as a rule it was decidedly tough and solid to the touch, and heavy out of proportion to its size. The enlargement of the organ as a whole was allowed to be the conspicuous feature even when we took into account the due allowance which must be made for its greater relative size in the early years of life. Its surface was always smooth and its colour varied from the appearance of deep congestion to the characteristic red mottling of fatty infiltration. On two occasions (Feb. 1887 and Feb. 1888) I exhibited before the Pathological Section of the Birmingham Branch of the British Medical

Association microscopical sections of rachitic livers showing increase in the fibrous connective tissue elements of the organ. Besides the above mentioned sections, which were derived from two different cases, I have examined microscopically several other specimens of the organs in rickets and in each case I have found present in the liver a fibroid change of the same character. This, in one or two cases, is associated with a fatty infiltration of the hepatic cells. Many of the wasting diseases of childhood are accompanied by this fatty infiltration of the liver, and it is quite to be expected in rickety children who die from the marasmus such as supervenes on chronic diarrhoea or other exhausting disorder.

I am of opinion that this fibroid change in the liver in rickets must be recognised as a distinct form of cirrhosis in children. All the sections which I have made exhibit a definite hyperplasia of the interlobular connective tissue. The newly formed fibres and granulation cells are found developed to an abnormal extent along the interlobular septa. These processes are poorly developed and indeed, to a large extent, absent in the normal liver of the human subject, in whom lobule borders upon lobule with ill defined boundaries, and the peripheral capillaries of the one directly communicate with those of another. In the liver of rickets I have observed that the abnormal overgrowth of the interlobular connective tissue, though not excessive, yet is remarkably definite, and has a tendency to assume the interlobular arrangement; it surrounds individual lobules and maps them out from one another. In the immediate neighbourhood of the interstitial growth and at the periphery of the lobules the thinner sections show in places a small celled infiltration derived apparently from the interlobular connective tissue, and encroaching upon the hepatic cells at the margin of the lobules. Some of the sections also exhibit a very marked thickening of the coats of the bile-ducts. This is apparently due to a hypertrophy of the circularly disposed muscular fibres in the wall of the duct, and in the same sections there is evidence of multiplication of the biliary canaliculi. It will be seen from the

condition of the liver generally that it closely resembles that form of fibroid induration which goes by the name, "hypertrophic cirrhosis." Pathologists are by no means agreed as to the exact nature and causation of the various forms of interstitial hepatitis. No very satisfactory system of classification or nomenclature has been as yet advanced. The terms in ordinary clinical use are inaccurate and misleading. It is sufficient for the present to insist upon the presence of a chronic overgrowth of interstitial tissue as the chief factor in the causation of the enlarged liver in rickets.

The chief difficulty in a research of this sort is the exclusion of other causes of inflammatory change in the liver. Care was taken in investigating the family history of the children to exclude the possibility of hereditary syphilis being the real factor at work in the causation of the interstitial changes. With this in view as many facts as possible were ascertained, which bore upon the health of the parents and of the other children in the same family, and I felt confident that in some cases, at any rate, no suspicion of syphilis could be entertained. Besides gummatous hepatitis there is a form of syphilitic inflammation of the liver which is of the finer and more diffused kind, uniformly spreading along the portal canals, and sometimes involving the portal veins in an abundant fibrous outgrowth. Another important feature in syphilitic cirrhosis of the liver is the tendency which the fibrous overgrowth manifests to invade the lobule and extend throughout the whole capillary network surrounding and enclosing the hepatic cells individually, and resulting in their isolation and atrophy. Hence this kind of cirrhosis has been called unicellular. If the cirrhotic change in rickets were due to syphilis, this intralobular invasion of the liver cells by the fibrous ingrowths ought to be apparent. I have not observed this feature in any of the sections which I have made. On the other hand, the hepatic cells themselves and the capillary spaces appear fairly normal towards the centre of the lobule, and towards the periphery the most noticeable change is the fatty infiltration, unless we except the small celled

invasion of the outer part of the outer zone, which is probably derived from the proliferation of the cells of the interlobular connective tissue.

The possibility of alcohol playing its malevolent part, even in the case of young children, was well illustrated by two cases which were brought under my notice lately. A young child (3 years) was under the care of Dr. Suckling in the Queen's Hospital last November with a history and symptoms pointing clearly to alcoholic cirrhosis of the liver. It seems that his parents had fed him on a diet largely consisting of spirits and strong ale. The apparent intention was to "strengthen" the feeble infant. The child succumbed after suffering from general marasmus and ascites. The liver was enlarged and "hob-nailed," and the microscopic sections which I prepared revealed a very coarse cirrhosis with abundant thick bands of new fibrous tissue and granulation cells surrounding and compressing lobules and groups of lobules. The hepatic cells themselves were fatty. Very similar was the microscopic appearance of the liver of the other child. I am indebted to Dr. Drury, Physician to the Children's Hospital, for this specimen which I exhibited at the Pathological Section in April last. The child died with marked ascites and jaundice, and its father confessed to having supplied it with frequent alcoholic drinks. In this case the liver was shrunken, and remarkably dense and tough, the fibrous tissue having undergone contraction. One of these children had some signs of rickets, but I have quoted the cases chiefly with a view to contrast the coarse changes observed here, where the cirrhosis is due to alcohol, with the fine and diffused distribution of the hypertrophic variety. Another cause of cirrhosis of the liver has been recently investigated by Dr. Crooke, Pathologist of the General Hospital. According to his researches scarlatina gives rise to an interstitial hepatitis, and arguing from the pathological changes which the kidney undergoes in the same disease, he is led by analogy to advance the hypothesis that the interstitial change in the liver may form the starting point of a chronic fibroid cirrhosis. However, Dr. Crooke

believes that in the majority of cases of interstitial hepatitis in scarlet fever the inflammation undergoes resolution and clears up as the patient recovers.*

This being the case, it is impossible to ascribe the cirrhotic change observed in rickets to a scarlatinal hepatitis in all cases. There is no clinical or pathological evidence to support such a view. At the same time I must admit that some of the patients who were the subjects of my investigation may have suffered from an antecedent scarlatina.

In its general appearance and microscopic details the liver in rickets seems to correspond to the type of hypertrophic cirrhosis. The changes in the bile-ducts and canaliculi point indeed to a biliary hepatitis, which is supposed to be caused by a chronic obstruction to the bile. I am inclined to believe that a possible explanation of the hepatitis in children who suffer from rickets is to be found in the chronic gastro-intestinal catarrh, which is a constant early symptom in all cases. The involvement of the bile-duct in the general catarrhal condition, and the chronic incomplete biliary obstruction consequent thereon, may be supposed to give rise to an interstitial hepatitis such as described.

* For this and many other points of great interest in scarlatina, see Dr. Crooke's able papers in this Review, vol. xx., xxi.

REVIEWS.

PETROLEUM.*

IN this pamphlet, which consists of a series of articles by various authors, we have a popular account of the way in which mineral oil is and used to be obtained, together with advice respecting the way in which we ought and ought not to use this substance for the purposes of giving light and heat.

The title is justified by the amount of useful information that is given, and many interesting facts are brought forward, especially with respect to the production of lamp accidents. Among these latter we may mention Dr. Bostock Hill's experimental attempts to cause oil lamps to explode by adopting the recognised means of bringing about such a result, as, for example, by turning the lighted wick down into the oil, blowing down the chimney, &c. The results he gives do not coincide with the beliefs which are commonly held as to the dangerous nature of petroleum or paraffine lamps, for he failed in his endeavours, in spite even of experimenting on lamps heated till the oil in the reservoir was boiling. These observations seem to show that good lamps, properly handled, cannot be otherwise than safe.

The articles by lamp dealers and others seem to point to the same conclusion, and show that, in spite of the frequency with which extreme carelessness and want of proper attention to the lamp is shown by the public, the proportion of accidents is extremely small.

There is an interesting and suggestive article on the adaptability of petroleum as fuel for warming or cooking-stoves, from which it would seem that there is a very promising future in store for these stoves. An oil warming-stove seems well

* Petroleum : Valuable Hints to Those who Use it ; being a series of articles by well-known and practical authors. Illustrated. Price 3d. London : 402, Strand.

adapted to preserving the even temperature necessary in a sick room.

If the general public were to profit by the advice here put within their easy reach, as assuredly they ought, respecting the best quality of lamp to use and the best mode of using it, there would be fewer complaints against this satisfactory illuminant, and the number of accidents that occur, few though they be at present, would be still further diminished.

INDEX MEDICUS.*

WE would like once again to bring this most praiseworthy publication before the notice of our readers. We deeply regret to find that Mr. Davis still continues the work at a considerable loss to himself, and must add our tribute of admiration for his generous public spiritedness.

From an article in the *Therapeutic Gazette* for January, we learn that there are only 463 paying subscribers, and that of these 340 belong to the United States. Our own nation contributes but 41, Germany 33, and France 18, while other countries are represented by single figures.

The magnitude of the undertaking may be gathered from the fact that in 1885 reference was made in its pages to the works of 15,000 medical men.

It is by far the most complete work of its kind that has ever appeared. To the medical library it is simply invaluable, and no man doing original work can afford to be without it.

LESSONS ON PRESCRIPTIONS AND PRESCRIBING.†

THIS little book is already so well known and appreciated by students and others that we need not do more than call attention to the fact that a new edition has appeared in which it is adapted to the British Pharmacopœia of 1885.

* Index Medicus. Published by Geo. S. Davis, Detroit, Michigan, U.S.A. H. K. Lewis, London.

† Lessons on Prescriptions and the Art of Prescribing. By W. Hausdel Griffiths, Ph.D., L.R.C.P.E. London: Macmillan and Co., 1888.

A MANUAL OF THE OPERATIONS OF SURGERY.*

THIS Manual is disappointing in many ways, for when we take up a work on operative surgery we naturally expect to find the descriptions given with a care and an accuracy of detail that is not to be met with in a work on general surgery. Such, however, is not the case here. For instance: In ligature of the external iliac artery we are told that "the fascia transversalis must be carefully scratched through near the crest of the ileum." No reason is given for selecting this position, where there is less fatty tissue between the fascia and the peritoneum, and, consequently, more danger of wounding the latter than at the lower end of the incision. Some further directions should have been given, as exactly how to open the fascia to the necessary extent. The circumflex iliac vein is twice said to cross the artery from "within outwards." It is stated that "both external iliacs have been tied in the same patient with success on at least two occasions." It would be interesting to know where these cases are published.

The sheath of the carotid artery is to be "cautiously opened to the extent of about half an inch." It is usual to recommend that this should be opened well on the inner side, so as to avoid the distended vein. In speaking of ligature of the common carotid below the omo-hyoid, no mention is made of the fact that the relation of the internal jugular vein to the artery is different on the two sides of the neck at the lower part. In ligaturing the external carotid we are told to avoid the superior laryngeal nerve which lies behind the vessel, but nothing is said about the hypoglossal which is immediately in front of it. The description of ligature of the lingual is brief, to say the least of it.

* *A Manual of the Operations of Surgery.* By Joseph Bell, M.D., F.R.C.S. Edin. Sixth edition. Edinburgh: Oliver and Boyd, Tweeddale Court. London: Simpkin, Marshall and Co. 1888.

Mr. Bell says that the third part of the subclavian "has in most cases no branch whatever." This statement is hardly in accordance with our experience, as the posterior scapular has very often been seen to come from it; and according to Quain it does so "in the great majority of instances." The following are the instructions for ligature:—One incision "through skin, superficial fascia and platysma, along the upper edge of the clavicle, for at least three inches from the anterior edge of the trapezius to the posterior border of the sterno-mastoid, and in muscular subjects freely overlapping the edge of both muscles. Another, two inches in length, along posterior border of sterno-mastoid meets the first at an angle." This appears to be much more extensive than is necessary. There is no note of the plexus of veins often found over the artery in this situation, or of the best way of making a path between them and through the areolar tissue.

The rest of the work is much more satisfactory. A remark *à propos* of the various methods of amputating at the shoulder joint is very much to the point. "When, however, we reflect that in the living body, in cases where amputation at the shoulder joint is required at all, the severity of the accident or the urgency of the disease will, in general, leave no room for selection, we shall see how utterly valueless is any knowledge of mere methods of operating, and of how much greater importance it is we should be simply thoroughly familiar with the anatomy of the joint." This statement will bear a wide application.

We find the list of operations very complete and well up to date. Amongst others are pylorotomy, gastro-enterostomy and duodenostomy. With a careful revision of the section on the arteries and a more liberal supply of diagrams, this manual will completely fulfil the purpose for which it was written.

THE SALIVA AS A TEST FOR FUNCTIONAL
DISORDERS OF THE LIVER.*

THIS little work of 100 small octavo pages is an endeavour to prove that the amount of sulphocyanide in the saliva is an index to the activity of the liver. This is Dr. Fenwick's account of the manner in which he was led to make the investigation: "I received from him," an elderly medical man whose only complaint was an intensely bitter taste in the mouth, "a considerable quantity of saliva and obtained from it the ordinary indications of the presence of biliary salts. On thinking over his case, it seemed to me that if the salivary glands were capable of separating the biliary salts, perhaps some material derived from these might be a normal constituent of their secretion. Then as bile contains so large a percentage of unoxidised sulphur, and as the saliva also secretes a sulphur salt in the shape of sulphocyanide of potassium, it struck me there might be some connection between the action of these glands."

His method of procedure is thus described:—"A solution of sulphocyanide of iron was prepared of definite strength, and was graduated by successive dilutions, so that each was only three quarters of that above it. These were placed in the small flat bottles used by spectroscopists, each bottle being of equal thickness. I took my own saliva, which agreed in colour with that formerly taken as normal"—which was obtained by mixing the salivas of a number of healthy people together—"as the normal standard, and the bottles were labelled + or —, according as they differed from it. Each of the salivas, when examined, was mixed with a definite quantity of the tincture of the perchloride of iron, filtered through cotton wool, and being placed in a spectroscopic bottle of equal thickness was carefully compared with the graduated strengths of the sulphocyanide of iron."

* The Saliva as a Test for Functional Disorders of the Liver. By Samuel Fenwick, M.D., F.R.C.P. London: Churchills. 1888.

Five hundred patients in the hospital wards were thus examined week by week besides a large number of others which were subjected to a less rigid examination.

The results, to say the least, are very interesting. We have only space to refer to those obtained from 13 cases of typhoid. In these, during the second week previous to convalescence* the amount of sulphocyanide was $+ \frac{3}{4}$ (as the saliva was at this time in very small quantity the total amount of the test present must have been very small)—in the succeeding week it rose to $+ 2$: in the first week after convalescence to $+ 2\frac{3}{4}$; in the second week to $+ 3\frac{1}{4}$; in the third to $+ 2\frac{3}{4}$; in the fourth to $+ 3$, and remained high till after the seventh week of convalescence, in some instances rising to $+ 7$. Another point of interest lies in the fact that where the duration of the febrile stage was short the increase of the salivary salt was less abrupt, but the duration of the convalescence—as shown by the increase of salt—was longer. Hence the amount of the salt secreted during the first week of convalescence should help us greatly in our attempts to foretell the length of this, and prove therefore a fact of high value. But we cannot help remarking that the statement that typhoid with a febrile stage of less than twenty-one days has a longer convalescence than the same disease when the fever exceeds twenty-one days is a very hard saying in the ears of any practical physician.

On the other hand, in ten cases of progressing phthisis the average amount of the salivary salt was only $- 1.27$: there is also a similar deficiency in the later stages of malignant disease.

But space forbids. The work throughout is most ingenious and indicative of patient persevering labour: a work well worth perusal and rich in suggestiveness: a thoughtful contrast to the too-frequent literary advertisement through which we have to wade with a dull and dreary pain.

* *i.e.* the date at which the normal temperature was first permanently resumed.

OUTLINES OF PRACTICAL PHYSIOLOGY.*

THIS is an exceedingly convenient handbook of experimental physiology. The chemical and physical portions are both very complete, and are illustrated with abundant and well-chosen diagrams. The collection of diagrams for experiments on vision will be found particularly useful.

The book is designed specially for medical students; but, like all text books of the kind, it makes hardly enough distinction between the methods which are useful in medical practice, and those which are only of scientific interest.

It would be possible with a little ingenuity to considerably simplify the portions relating to quantitative analysis. Too often the student receives in the physiological laboratory his initiation into the mysteries of quantitative analysis; and for want of really simple and practical teaching, his one opportunity of acquiring skill in this art is sometimes lost.

There is an evident oversight on page 96, where we read,—
 “To a solution of sodic chloride (normal saline), add mercuric nitrate=precipitate.”

TRANSACTIONS OF THE ACADEMY OF MEDICINE
IN IRELAND.†

WE call attention with pleasure to the fifth volume of the Transactions of the Academy of Medicine in Ireland. The union of the various medical societies of Dublin, constituting a joint “Academy,” has been productive of excellent results. The association seems to be in a flourishing condition, and the communications contributed by the Fellows and members are of the usual high standard. The volume is neatly printed and admirably illustrated. The lithographs of Mr. E. H. Bennett’s case of Fracture of the Ischium have been especially well executed.

* Outlines of Practical Physiology: being a Manual for the Physiological Laboratory, including Chemical and Experimental Physiology, with reference to Practical Medicine. By William Stirling, M.D., Sc.D., Professor in the Victoria University, &c., &c. London: Chas. Griffin & Co. 1888.

† Transactions of the Academy of Medicine in Ireland, vol. v., 1887. Dublin: Fannin and Co.

NOTES ON DISEASES OF WOMEN.*

THIS little work consists of thirteen short essays on gynæcological subjects. They are very unequal; some of them—those on sterility and fibroid tumours, for example—possessing very considerable merit; while others are altogether inadequate to the subject of which they are supposed to treat. There is a philosophic tone or flavour—an appreciation of the value of comparative and developmental research—and an absence of therapeutic enthusiasm in the author's style which, in their way, are admirable qualities, especially as a basis on which to ground a more extended work. Sometimes, however, there are signs of a straining after effect in one of these directions which it would have been better to avoid. The following paragraphs, in the present writer's opinion, may fairly be considered as examples of this tendency:—

“The development of the uterus from the fallopian tubes is a fact worthy of being borne in mind, for patients who suffer from pyosalpinx invariably complain at some time or other in the progress of the disease, not only of disturbance during but of interference with the manifestations of the recurring physiological changes in the uterus.”

Again: “The germ and sperm cell may meet and coalesce. In order, however, that an uninterrupted segmentation may be evolved, they must produce by their union not a state of equilibration, but a state of molecular disturbance. If the molecular waves of the two elements are too closely allied to each other, they induce a state of equilibrium with which all vital reaction ceases and no further evolutionary change becomes possible. If two forces of equal intensity act upon each other in opposite directions, a state of rest will result. It is possible thus, by adding light to light to produce darkness; or by adding sound to sound to produce silence. The waves of the one force are spent in overcoming the waves of the other force.”

In almost every chapter of the book a paragraph appears on molecular disturbance and equilibration, which the author

* Notes on Diseases of Women. By James Oliver, M.D., Edin., F.R.S. Edin. London: Hirschfield Brothers. 1888.

introduces as of special significance. Whether an explanation capable of universal adaptation is of much value in the elucidation of vital phenomena is a question that many will consider doubtful.

As the first passage which was quoted was one on which the bearing of development appears to be somewhat strained and unnatural, it is only fair that another should be noticed, which, in our opinion, is of distinct value, and serves to mark and explain an important observation.

Dr. Oliver draws attention to the fact that the urinary and reproductive organs in the human frame are developed from a common structure (the temporary organs named the Wolffian bodies), and afterwards suggests that this may be explanatory of the symptom of menorrhagia which accompanies pyonephrosis. The present writer has often observed menorrhagia as a symptom accompanying tumour or enlargement of the kidney, and while this symptom is by no means uncommon in various small pelvic and abdominal tumours of other organs it is certainly very possible that development may have a special bearing upon its appearance in kidney disease.

Another paragraph containing a concise and forcible descriptive sentence may well be reproduced:—"It is more than probable, however, that as we may consider the epileptic patient as epileptic throughout, *even to the finger-tips*, the interruption of the periodically-recurring functional disturbance in the uterus is wholly independent of any defective structural state of the viscus itself."

The book is well got up—the type is excellent, and, with one exception (on page 26), no directly grammatical or typographical errors are to be met with. In his preface the author expresses a hope that his book "may *lend* in the establishment of gynaecology on a more sure and scientific basis." This use of the verb is new in our experience, but perhaps the sentence may be framed on some old model of which we are ignorant.

An appreciative dedication to Sir James Sawyer draws attention to the fact that the writer is an old Birmingham student, who remembers gratefully his connection with the Queen's Hospital.

RETROSPECT.

NERVOUS DISEASES.

BY C. W. SUCKLING, M.D. LOND., M.R.C.P.
PHYSICIAN TO THE QUEEN'S HOSPITAL.

Alcoholic Neuritis—The Lancet of May 19, 1888, mentions a new contribution to the histology of peripheral neuritis by Professor Eichorst, of Zurich. At the autopsy of a case of well marked alcoholic paralysis no gross lesions could be seen in the nerve centres. The spinal nerve roots were normal but the tibial and radial nerves were profoundly diseased, osmic acid preparations showing very extensive degeneration and atrophy with absence of axis cylinders in a large proportion of the nerve fibres. Tracing the nerves to their peripheral terminations in the muscles Professor Eichorst found the lesions to be more advanced and complete there than in the nerve trunks. Within a muscle there was not a single normal nerve fibre. Each degenerated nerve fibre was surrounded by numerous laminae of connective tissue produced from the endoneurium and perineurium. Professor Eichorst proposes to term the condition "neuritis fascians," as denoting what he considers to be the essential feature of the change, viz: the inflammation of the nerve sheath and the extension therefrom to the interstitial tissue of the muscles.

An Epidemic of Infantile Palsy (reported in the Lancet, January 28, 1888).—M. Cordier has observed an epidemic of this disease, of thirteen cases occurring in a period of two months, in a population of fifteen hundred. The age varied from one to thirty months, and nearly all the children were in perfect health. Four cases died on the third day of the disease. Fever, convulsions, profuse sweating, and paralysis of variable extent, observed on the second or third day, were the chief symptoms. The amelioration and repression of the paralysis, and the subsequent localisation with deformities leave

no doubt of the nature of the malady, and the author inclines to the belief that an infectious agency must have been at work.

Tetanus after Hypodermic Injection.—A case of tetanus occurring in a child aged six, suffering from tuberculosis, is recorded. The child was treated by subcutaneous injections of quinine, and one month later trismus and tetanus supervened, followed by death.

Mental affections associated with Chronic Bright's Disease.—Dr. William Osler, at the Philadelphia Neurological Society, recently referred to the occurrence of certain mental affections which come on in connexion with chronic Bright's disease. He reported one case of violent mania in a man aged 42, the subject of Bright's disease, who subsequently became comatose and died. Another man under Dr. Osler's care, suffering from chronic interstitial nephritis, got out of bed and jumped through the window. His wife subsequently said that before admission to the hospital he had been violent and thought that he was being persecuted. In another case the question arose whether or not the man was in a condition to make a will. There was no doubt as to the existence of chronic Bright's disease. He believed that his wife and others had designs upon his life, and he thought that people were persecuting him. This man subsequently improved and recovered sufficiently to get about and make his will.

Successful Excision of a Tumour of the Spinal Cord.—Mr. Victor Horsley has recently successfully excised a tumour of the spinal cord in a patient of Dr. Gowers. The patient had spent about three years in severe pain, which was most intense just below the angle of the left scapula and was accompanied by absolute loss of motion and sensation of the body and limbs below that level. The upper border of the anæsthesia was in the region of the fifth intercostal nerve on the left side, on the right it was less accurately defined but did not extend higher. Mr. Victor Horsley removed the spines and parts of the laminæ of the fifth, fourth, and third dorsal vertebræ. The tumour was a small oval myxoma compressing and indenting

the left side of the spinal cord below the third vertebra. It was easily shelled out, and under careful antiseptic treatment the temperature did not rise more than 1° F. For three or four weeks the former acute pain did not lessen, but after that it gradually decreased and, after seven months, had entirely gone, sensation and motion of the body and legs had also been almost completely restored. This is the first time that such an operation has been attempted, and its complete success must be most gratifying to both Dr. Gowers and Mr. Horsley.

Masked Epilepsy.—Dr. Bartholow has recently described an interesting example of respiratory neurosis. The patient was a man under thirty, of well-marked neurotic constitution. He complained of paroxysms of pain about the præcordial region, shooting thence through the chest in all directions, especially in the left side of the neck and shoulder, sometimes downwards into the left arm. Respiration became gasping and shallow, cyanosis appeared quickly, the countenance assuming an agonised expression. The eyes protruded, and the skin grew cold and covered with a clammy sweat. An inhibition of the heart's movements occurred and faintness ensued, and later on consciousness was momentarily lost. As the case went on, the symptoms increased in complexity and meaning. Twitchings of the facial muscles occurred; the faintness extended into complete unconsciousness, and the seizures were preceded by certain uneasy sensations which announced a paroxysm. Dr. Bartholow considered that these phenomena ally the case to epilepsy—the “masked epilepsy” of Trousseau.—*The Practitioner*, February, 1888.

Sudden or Apoplectic form Bulbar Paralysis.—M. Richardière (*Journal de Médecine de Paris*, December 4th, 1887) records the case of a woman, aged 45, who was admitted into hospital in a condition of stupor. She had been suddenly attacked four days previously. Articulation was embarrassed and mouth was closed with difficulty, being open and allowing the saliva to dribble. The tongue was paralysed and could not be protruded. The velum palati was immovable. Deglutition was difficult,

and liquids were rejected through the mouth. The limbs were unaffected. The radial arteries were atheromatous. The bulbar symptoms were evidently due to momentary obstruction of the bulbar arteries, for the paralysis disappeared in a few weeks. The tongue recovered first, then the lips and velum palati.

Disappearance and return of the Knee Jerk in Diabetes.—Mr. T. Raven recorded a case of diabetes in the British Medical Journal last year, in which the knee jerk, which had been lost on both sides, reappeared coincidentally with a great improvement in the patient's condition.

CUTANEOUS DISEASES.

BY R. M. SIMON, M.A., M.D.

Hyperidrosis.—Dr. Cutler reports (Journal of Cutaneous and Genito-Urinary Diseases, New York, February 1888) a very interesting case of the above affection, and discusses the subject from the points of view of etiology and treatment. The patient was a young lady, æt. 22, who, from the age of thirteen, noticed that her hands were always wet, as though they had just been taken out of water. The area of sweating was limited to the palmar surfaces of the hands and fingers, not appearing on the backs of the hands or above the wrists. The secretion was always clear, odourless, and with a slightly salty taste. The quantity of the secretion was enormous; an ounce of water could be obtained from one hand in five minutes, and at night her hands had to be wrapped in towels to prevent the sheets from being wet through. Her general health was good, and nothing unusual was to be noted, except that she was of an extremely nervous temperament, easily excited and very quick tempered. All treatment, local or general, failed to do good. Dr. Cutler sums up in the following propositions his views on hyperidrosis:—(1) that the cause is usually a nervous one; (2) that the secretion of the sweat glands seems to be controlled by the sympathetic ganglia or systems of nerves; (3) that hyperidrosis

is a functional affection of the sympathetic system ; (4) that the sweating of the extremities is usually symmetrical, owing to the close relationship and anastomosis of the sympathetic ganglia of the trunk, and asymmetrical on the head and neck for want of this relationship ; (5) that as there is but slight structural change in the affected sweat glands, and that is accounted for by the hyper-secretion, the disease is probably functional, and not organic ; (6) that the difference in appearance of the affected skin on the extremities and trunk is due to the distance from the centre of circulation, as the physiological conditions are the same ; (7) that painful and tender feet, not rheumatic, are usually the result of hyperidrosis ; (8) that bromidrosis is usually the result of uncleanness—not removing the secretion promptly ; (9) that nerve tonics are usually indicated in the treatment of hyperidrosis ; (10) that local treatment is always indicated, and although it may not effect a cure it nearly always relieves the symptoms. The local remedies found most useful by Dr. Cutler are powders containing bismuth and salicylic acid. Astringent lotions of lead acetate, tannic acid and belladonna have also proved of value.

Treatment of Psoriasis by large Doses of the Iodide of Potassium.—Haslund gives the iodide in quantities of from twenty to fifty grains daily. The iodide was taken in small doses and in large dilution with water. He found that he could cure eruption with little risk of iodism, and much more readily than with arsenic, which only begins to show its curative effect in six weeks.

Internal Treatment of Lichen.—The itching may be relieved by opium or morphia injections ; and if the disease be chronic, arseniate of soda should be given. For ordinary cases frequent purges are recommended ; and a careful dietary, excluding coffee, tea, strong wine, pork, game, cheese, is insisted upon.—Gazette Méd. de Hautes, December 9th, 1887.

Congenital Traumatic Pemphigus.—Dr. Payne, in the Report of the Department for Diseases of the Skin in St. Thomas' Hospital, describes a case of this rare disease. Two others

have been recorded by Dr. Payne, and a similar number by Dr. Wickham Legg. With the exception of a somewhat similar case seen by Goldscheider, no others have been published. Dr. Payne's last case was that of a little boy aged three. There was no history of syphilis, and the family history was good. "The boy since his birth has been subject to an eruption on the face, hands, and elsewhere. The spots first come as blisters, which often bleed. They are brought out by any kind of blow or injury. For instance: If the child falls and knocks his knees, blisters, into which there is bleeding, result. Sometimes the blisters are quite pale, but they may also suppurate. At present the child has suppurative crusted patches on both knees and both elbows and one on the left cheek. Where the crusts have fallen off there is a reddish superficial scar. There is a suppurating gland in the left groin, which has been noticed only three days. But for the history, the sores might have been regarded as some form of impetigo or erythema. Another character was however present, which positively established the diagnosis—namely, the condition of the nails on the fingers and toes. Several of them were deformed, incurved, thickened and ribbed. On the right hand the thumb and forefinger had small incurved nails; the others were natural. On the left hand the thumb nail was thickened and deformed, two of the finger-nails longitudinally ribbed. On the right foot the nail of the great toe was deformed and thickened, that of the second toe abnormally small, that of the fifth entirely wanting. On the left foot the first and third toes had small deformed nails; the others were normal. When the patient attended next week the abscess which was matured was opened. The suppurating patches on the limbs were much better, but there was one fresh bleb on the left forefinger into which there was some hæmorrhage." The child improved, but discontinued attendance.

Erythrasma.—This name is given by Dr. Payne to some reddish brown scaly patches occurring on the scrotum, and the inner part of the thigh in contact with it. It is distinct from intertrigo or eczema by the fact that it is unattended by

inflammation, and by the constant presence of parasitic fungi or bacteria.

Myrmica Arachnoida.—A brown discolouration of a portion of the skin on the arm and desquamation of the epidermis are described by Dr. Payne under the above name, and are considered by him to be due to the settlement of a colony of micro-organisms, which found a suitable soil in the warm moist situation.

Salt in the Treatment of Skin Diseases.—Dr. Brooke, in the *Medical Chronicle* for May, quotes Dr. Piffard's experience of the effect of sea-water and salt brine baths on the normal and diseased skin. Sea salt contains 95 per cent of sodium chloride, with small quantities of magnesium chloride and sulphate, and calcium and sodium sulphates, which makes its solutions like sea-water slightly glutinous and causes the skin to feel sticky. The presence of iodine and bromine is doubtful. Dr. Piffard finds sea-water baths useful in chronic eczema, sluggish psoriasis, furunculosis, priginous affections, and strumous diseases. The bathing should be continued for some months, and if this cannot be done at the sea-side, sea salt baths should be used at home. These should be prepared by mixing from one to fifty pounds of common salt with twenty-five gallons of water at a temperature of 95° to 97° F. The immersion should last from fifteen to twenty minutes. He also recommends the use of a bath containing ten pounds of salt in cases of subacute eczema.

Pathogeny of Urticaria.—Dr. Unna divides urticarial eruptions into the following four forms:—

1. Universal predisposition due to cerebral causes.
 - A. Urticaria traumatica.
 - B. Urticaria communis, chronica et acuta.
 - C. Urticaria factitia.
2. Local predisposition due to peripheral causes.
 - D. Urticaria pigmentosa.

He produced some urticarial wheals by the use of nettles, excised them, and found no migratory cells, as in healthy skin.

To explain the formation of wheals he suggested the existence

o spasm in the large veins of the skin, which are provided with muscles, whereby a stasis takes place in the lymphatic circulation of the skin.

The pathological appearance of the wheal, he says, coincides with a perverse innervation of the vasomotors, that is such an one as leads to spasm of the veins, with or without slight narrowing of the arterial blood vessels. No paresis follows upon a primary contraction. The wheals are in the beginning always red, and always and in all forms of urticaria there is present a paresis, an enlargement of all the blood vessels, arterial as well as venous; but in those predisposed to urticaria the small veins of the skin contract . . . anæmia, however, does not result, but a wheal.

OBSTETRICS.

BY A. HARVEY, M.B.

On the Temperature during the Puerperal period.—A committee of the Æsculapian Society appointed last year to investigate this subject has issued a report through Dr. J. W. Hunt. The results briefly are—that in 70 per cent. of all cases the temperature never exceeded 100°, while in 43 per cent. it was practically normal. The highest temperature occurred almost always during the first five days, but between these there was little difference in the frequency of its incidence; it was slightly most frequent on the 1st day (this probably from neurotic causes), then in order on the 3rd, 4th, 5th. 2nd. In cases where laceration occurred the average temperature was slightly higher, but the rise was in no way proportionate to the length of the tear. After the use of the forceps in no case did it remain quite normal, but it was never high. In three cases of retained placenta it remained normal, in one it was high. The occurrence of after pains had no effect upon the temperature curve. The highest temperatures were due to neurotic conditions, e.g., “acute domestic infelicity.”

The influence of Ergot on Involution of the Uterus.—A discussion upon this subject was introduced at the February Meeting of the Obstetrical Society, by Drs. Herman and Fowler. In their cases the criterion adopted was the height of the uterus above the pubes upon successive days of the lying-in in two series of cases, (1) where ergot was administered systematically for 14 days, and (2) where one dose was administered and no more, the result was that the uterus diminished more rapidly in the first than in the second class of cases; with regard to the cessation of the lochia there was no appreciable difference. Dr. Boxall had made similar series of experiments and found that ergot tends to prevent the formation and hasten the expulsion of clots, diminishes the frequency, intensity and duration of after pains—has no appreciable effect on the cessation of the lochia. Dr. Dakin did not accept the criterion as trustworthy; his results had been contrary. He found that with a single dose of ergot the uterus sank to the brim in 9·2 days, with three days of ergot in 12·3. That with one dose the lochia lasted 9·8 days, with three days use of the drug the duration was 11·3 days. That in the ergotised cases there was less after-pain, but more clots, which however ceased on the 6th day, while in the unergotised cases they lasted till the 10th.

The same question is discussed by Dr. Blanc in a paper in the *Annales de Gynécologie*, March, 1888. The conclusion which he considers his experiments amply justify is that ergotin when administered during the first five to ten days of the puerperal period, so far from exerting a favourable influence on uterine involution, actually interferes with the process, as tested by external measurement combined with internal.

The Relative Frequency and Causes of Fetal Positions.—Schäublin (*Archiv. für Gyn.*, B. 32, H. 2) considers that gravitation causes occipital presentation; that lax abdominal walls permit the child's back to turn to the mother's right side more frequently in multiparæ than in primiparæ, and that in contracted pelvis the uterus shapes itself to accommodate the

foetus. Also that contracted pelvis is the most frequent cause of anomalous positions.

Craniotomy and its Alternatives.—One of the most important contributions to the discussion of this question is a series of papers by the staff of the Dresden Maternity, edited by Leopold, and based upon nearly six thousand cases treated at that institution during a space of three years. In these cases labour was induced prematurely in seventy-six with the result that 78·9 per cent. of the children were born alive, and the maternal mortality was 2·2 per cent. Version followed by extraction was the method adopted in eighty-three cases; here the maternal deaths were four, but of these only one was traceable to the operation, while the infant mortality was 31 per cent. Out of seventy-one cases where craniotomy was performed the maternal mortality was *nil*. In the cases treated by modified Cæsarean section the percentage of children born alive was eighty-seven, the maternal death-rate 8·6 per cent., half the deaths being due to other causes. Leopold sums up that although the time is not ripe for the substitution of Cæsarean section for craniotomy, yet, when a living child is desired and alternatives are not possible, it is justifiable, provided that patient be strong, not far advanced in labour, and that the foetal heart sounds are normal. That the induction of premature labour is within certain limits decidedly the best course; but with a pelvis contracted beyond these limits, and in cases where the period for induction has passed, that craniotomy is on the whole to be preferred to section, even where the child is living, offering, as it does even now decidedly the best chance for the mother.

Writing upon the same subject, Strauch records a series of cases of induced labour, with a view to the estimation of the comparative value of this operation and the Cæsarean section. The maternal mortality (in twenty-eight cases) was *nil*, the infant mortality 55 per cent. Comparing these figures with a mortality in the modified Cæsarean operation of 11·8 per cent. for mothers and 8 per cent. for children, Strauch considers that the Cæsarean operation should be more frequently performed

where the indication is only relative. His infant mortality, however, in the cases of prematurely induced labour was unusually high.

On the Detection during Labour of Coiling of the Cord round the Neck of the Fœtus.—Dr. Turquand (*Annales de Gynécologie*, 1888, T. 360) considers that in occipito-posterior presentations if the head refuses to rotate, and, when artificially rotated, glides back to its former position, there is a strong presumption that the neck is encircled by coils of the cord. Turquand considers this sign as of the more importance in that the usual presumptive evidence of the presence of coils, length of labour and the umbilical souffle, is either valueless or absent in occipito-posterior positions.

THERAPEUTICS.

BY ARTHUR FOXWELL, B.A., M.B. CANTAB.

On the Treatment of Phthisis by Oxygen and Ozonised Oxygen. The patients inhaled the gas by means of a Clover's Nitrous Oxide Inhaler. Three inhaled pure oxygen for daily periods of five to fifteen minutes for a week to a month. They were all third stage cases: the inhalations never caused coughing, there was a general feeling of lightness and brightness after each inhalation and in two the pulse and respiration were temporarily slowed. *Oxygenated water* alone or with milk was found to lessen gastric irritability. *Ozone*.—When this was obtained from air all the patients complained of cough and a sense of irritation; but when it was formed from pure oxygen the general effects were—sleepiness, increased appetite for next meal, pulse and respiration unchanged, no irritation, no headache, no change in the amount of bacilli in the sputum. Dr. Ransome concludes (1) that pure oxygen can be inhaled continuously for at least fifteen minutes without the slightest harm resulting; (2) pure ozonised oxygen may be breathed, to the extent of 2,000 to 4,000 cub. ins., not only without harm, but even with apparent benefit. (3) The ozone lessened the number of the bacilli in the sputum in two cases, and in the third the expectoration was diminished and the disease quiescent, whilst the general

condition of the patients was much improved.—Dr. Ransome, Med. Chronicle, April, 1888.

Strophanthus.—In a review of many recent papers written on this drug, Dr. R. B. Wild draws the following conclusions of its therapeutic action :—

1. In valvular lesions, dilated heart, and degenerative changes of the cardiac muscle, there is, with one or two exceptions, a general agreement as to the benefit derived from its use. Diuresis occurred in nearly all the cases.

2. In functional diseases and neuroses of the heart temporary relief was obtained in some cases ; no benefit at all in others ; the best results occurring when the rhythm was markedly irregular.

3. In anæmia and chlorosis only slight benefit has been found ; none at all in some cases.

4. In angina pectoris, in some cases the paroxysm was relieved ; in others no effectual benefit was found.

5. In Bright's disease, with failure of the heart, good has resulted from strophanthus, diuresis occurring in all the reported cases.

6. In heart failure from febrile disease, especially typhoid fever, phlegmonous inflammation, and pneumonia, good results have been obtained by many observers ; indeed, several physicians consider this the most important use of strophanthus.

7. In diseases of the respiratory organs no benefit has been found, except in pulmonary conditions due to circulatory embarrassment. In one case of pleuritic effusion, diuresis occurred while taking strophanthus, with disappearance of the fluid from the chest.

8. In cases of liver disease, and conditions of the abdominal viscera causing ascites and anasarca, no benefit was derived from strophanthus.

9. Some cases are reported in which digitalis gave benefit when strophanthus failed. It is expressly stated that in some of these the arteries were relaxed, and the tension of the pulse low.

10. Evidence seems to point to the absence of any cumulative effect by continued doses of *strophanthus*.

11. It is recommended that the mixture be prescribed and only mixed with water at the time of administration; whether any decomposition occurs in aqueous solution is doubtful. Some experiments by Dr. Leigold Lammuth point in this direction, but require further confirmation.

12. Few bad effects have been recorded, but sickness and diarrhoea have been said to follow its use in some cases, faintness and quickening of the pulse in others; while several warnings have been published as to the local inflammation and irritation of the skin, following its subcutaneous injection.—*Med. Chron.*, April, 1838.

Treatment of Acute Pleurisy by Milk Diet.—Food and medicine must be nothing but two to three litres of milk daily. If it be badly borne at first, bicarbonate of soda, lime-water, Vichy water, magnesia, &c., may be added. It should be taken in small quantities at a time. Constipation frequently results and is best combated by rhubarb. M. Clonard publishes seventeen cases thus treated, the average duration being fourteen and a half days. The diminution of the effusion only begins when the amount of the urine notably augments, and this effect does not arise till after two or three days treatment. This treatment avoids the necessity of repeated blisterings and the use of drastic purgatives.—*Journal de Médecine*, May, 1888, Art. 13,840.

Sulphonal—(diethyl sulphon dimethyl-methan).—This compound was first built up by Prof. Baumann and found to possess hypnotic properties in 1886, by Prof. Kast of Freiburg. It is practically insoluble in water and any attempt to prescribe it in an emulsion is most unsatisfactory.

Mr. Brewer, Dispenser at the General Hospital, has prepared it in five grain pills according to the following formula—

Sulphonal gr. 120
Pulv. gumm. Acaciæ gr. viij.
Aq. ad. q. s. ft pil. xxiv.

This is the only form in which the present writer has made

use of the drug. On himself, three of these pills in five minutes produced an agreeable sensation of warmth in the stomach which extended during the next five minutes throughout the whole central region of the trunk, then the upper part of the chest seemed to escape, the glow pervading the neck and head and bringing unconsciousness in twenty minutes. The writer slept dreamlessly till he was awaked at the usual hour and got up much refreshed as after a purely natural sleep and without the slightest sense of malaise. The pills were taken for sleeplessness and palpitation due to an overdose of tea. But fifteen grains is a very small dose of sulphonal, twenty to thirty being perhaps an average amount. It may therefore be preferable to adopt Messrs. Burroughs, Wellcome and Co.'s advice to take it in powder or as tablets.

It is a remarkably stable compound being decomposed by neither acid nor alkali; nor is it oxidisable by ordinary re-agents in the heated condition, or at normal temperatures.

Prof. Kast tried it 300 times on 60 patients and found it a most valuable remedy, not so much by forcing somnolence as by accentuating the periodical need of sleep. He found it produced no untoward effects on blood, mucous membranes, heart, or circulation.

Dr. Rabas used it 220 times on 27 patients suffering from mania and found it most effective, preferring it to chloral.

Dr. Rosin gave it 274 trials and thinks it, in 30 grain doses, as certain as morphia or chloral.

Dr. Schwalbe speaks for its agreeableness to take owing to its being without taste or smell. In fact it seems to have proved as active as paraldehyde without these two great drawbacks to this latter. Schwalbe found it had no effect on temperature, pulse, or respiration, and, in doses of 15 to 30 grains to be especially valuable in cases of nervous sleeplessness.

Macvie, in the *Med. Press and Circular* for June, speaks hardly so favourably. He says that in robust people the dose is from 30 to 45 grains, which produce at first, in a large number of cases, a feeling of fatigue and languor, with a distinct loss of sensation to all outward impressions. After an hour has

elapsed a deep sleep comes on, though this is often delayed longer. This sleep continues to increase in severity for several hours.

However, he further states that in insomnia arising in acute affections (*e.g.*, fever), one to two grammes proved quite efficacious, the patients usually sleeping from six to eight hours, awaking refreshed and free from pain or any other bad effect. Also that, even after many weeks, its constant use in no way exhausts the body, nor does the amount of the dose require to be augmented.

Speaking generally, Sulphonal promises to be a most valuable drug of the paraldehyde type, and one which it is not unpleasant to take. There seems to be no evidence as yet to show its power of giving sleep or ease in the pain arising from organic disease.

Anthrarobin.—The chemical characteristics of the new remedy, anthrarobin, were set forth originally by Prof. Liebermann, but the first study of its physiological action was made by Jaffé and Darmstädter. It has similar properties to chrysarobin and pyrogalllic acid; but it is less active than the former, and stronger than the latter. The following are formulæ proposed by Behrend in the *Therapeut. Monatshefte* :—

Anthrarobin	.	.	10 parts	
Ol. Olivæ	.	.	30 "	
Lanolin	.	.	60 "	Misce.
Anthrarobini	.	.	10 parts	
Alcohol	.	.	90 "	Misce.
Anthrarobini	.	.	10 parts	
Boracis	.	.	8 "	
Aq. destil.	.	.	80 "	

He has used anthrarobin with success in psoriasis, herpes tonsurans, and other parasitic skin diseases.—*Amer. Jour. of the Med. Sciences.*

Physiological Action of Oil of Turpentine.—1. In small doses, such as those usually given in practical medicine, it increases the cardiac rate due to a direct stimulant action on the heart. 2. In large doses it distinctly slows the pulse by stimulating the vagus. 3. It has very little, if any, vasomotor

influence. 4. Poisonous doses (m 80 to 160) cause death by cardiac failure when injected into the jugular vein. 5. Small doses slightly increase reflex action, but large ones decrease it; the increase being due to spinal stimulation and the decrease to depression of the sensory part of the cord and afferent nerves. —H. A. Hare in Medical News, Nov. 19, 1887.

Vernonin, a New Cardiac Poison.—MM. Edouard Heckel and F. Schlagdenhauffen have recently communicated to the Académie des Sciences of Paris some facts in regard to vernonin, a new heart poison obtained from *Vernonia nigritana* (known in Africa as *Batiator* or *Batjentjor*), the root of which is used on the west coast of Africa as a febrifuge. As yet it has been impossible to obtain an alkaloid from the plant, but the alcoholic extract of the resin contains the glucoside vernonin, a white powder, slightly hygroscopic, the solution of which is pale yellow. It is only slightly soluble in ether or chloroform. The solutions, when evaporated, leave a colourless deposit of resinous appearance, which strikes a brown colour with sulphuric acid, this colour passing to a violet purple, and persisting for several hours.

According to Heckel and Schlagdenhauffen, when a few centigrams of the aqueous solution of the alcoholic extract are injected under the skin of the frog (in the thigh) paralysis of the limb soon supervenes. When the dose is large enough the heart soon ceases to beat, as after an injection of digitalis, convallaria, or strophanthus, and other vegetable cardiac poisons. A dose of gram 0.02 caused some cardiac trouble in the frog, but they soon disappear. With a dose of gram 0.04 there was at first a slight diminution in the amplitude of the cardiac movements; then, after about five minutes, the beats were twenty-four instead of thirty-three to the minute. In a short time the needle of the cardiograph dragged, and showed only two or three movements a minute. At intervals the arrests were interrupted by distension of the point of the heart from auricular action. In about forty minutes the heart was completely arrested, the needle tracing a straight line. With a dose of gram 0.09 the same phenomena were observed, and the

animal died in about three hours. Experiments on pigeons showed that gram 0.15 killed the birds in about fifteen hours. The autopsy shows the heart arrests in systole. Gram 0.25 kills a pigeon in about twelve hours. The experimenters conclude that vernonin is very similar in its action to digitaline, but that its toxicity is twenty-five times less marked than that of digitaline. Contrary to what has been supposed, the root of the plant does not contain emetine.—*Jour. Amer. Med. Assoc.*, June 16, 1888.

Local News.

At a recent meeting of the Council of the Royal College of Surgeons of England, Mr. Priestley Smith, Ophthalmic Surgeon to Queen's Hospital, was appointed Erasmus Wilson Lecturer at the College for the coming year.

At the International Congress of Ophthalmologists to be held at Heidelberg early in August, Mr. Priestley Smith, in association with Professor Snellen of Utrecht, will open the discussion on Glaucoma. We congratulate our townsman upon the distinctions thus offered him. They are doubtless the outcome of that originality which has always distinguished his work.

New Books, etc., Received.

- Diseases of the Skin: their Description, Pathology, Diagnosis, and Treatment.* By H. RADCLIFFE CROCKER, M.D. Lond. Illustrated. London: H. K. Lewis. 1888.
- A Manual of General Pathology, designed as an Introduction to the Practice of Medicine.* By J. F. PAYNE, M.D. Oxon, F.R.C.P. With 150 Illustrations. London: Smith, Elder and Co. 1888.
- Nerve Prostration and other Functional Disorders of Daily Life.* By ROBSON ROOSE, M.D., F.R.C.P. Ed. London: Lewis. 1888.
- The Intestinal Diseases of Infancy and Childhood.* By A. JACOBI, M.D. Detroit, Mich: George S. Davis. 1887.
- The Abortive Treatment of Specific Febrile Disorders by the Biniodide of Mercury.* By C. R. ILLINGWORTH, M.D. Ed., M.R.C.S. London: Lewis. 1888.
- On the Treatment of Rupture of the Female Peritoneum, immediate and remote.* By G. G. BANTOCK, M.D., F.R.C.S. Edin. Second edition. With 12 illustrations. London: Lewis. 1888.
- A Handbook of the Theory and Practice of Medicine.* By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P. Seventh edition. London: Lewis. 1888.
- Sketches of Hospital Life.* By HONNOR MARTIN. London: Sampson Low, Marston, Searle, and Rivington. 1888.

THE
BIRMINGHAM MEDICAL REVIEW.

SEPTEMBER, 1888.

ORIGINAL COMMUNICATIONS.

INTRODUCTORY LECTURE TO THE CLASS
OF GYNÆCOLOGY

IN QUEEN'S COLLEGE, BIRMINGHAM,

BY PROFESSOR LAWSON TAIT, F.R.C.S., LL.D., ETC.

Gentlemen,

I HAVE to congratulate myself to-day on the fact that I appear in an absolutely unique position, the first appointed Professor of Gynæcology in any medical school in Great Britain, and I trust that the example so well set by the authorities of this College will speedily be followed in other and larger schools. I have a knowledge of the fact that in the largest medical-school in the world, that to which I owe my own training, the Professor of Midwifery has been for many years desirous that his subject should be separated from the newly arisen specialty of Diseases of Women, and a special Chair of Gynæcology should be created. There are very many reasons why this policy should be extended, and some reasons can be urged against it which must be fairly met. To some of these reasons, on the one side and on the other I propose briefly to address myself, for they bear weightily on the methods of practising that art in which you are here to be trained. Another outcome of that training should be the learning those methods of it which shall conduce at once to the advancement of your profession, the welfare of

your patients and your own success in life. If your training is to be of much use to you it must have these objects and they must be regarded in the order in which I have placed them.

You know very well that from the earliest times the practitioner of the art of medicine has been the butt of the jester and the object of the cynic's shaft. In the primitive life of the African savage the medicine man is apt to suffer if his nostrums do not bring about the desired result, and in modern society even the President of the College of Physicians may be the subject of a charge that he has not understood the case if an august patient should die. Indeed, in these days of telegraphs and evening newspapers, the public is carried through the whole of the episode of an Emperor's illness, and the varying dexterity with which that surgeon and the other can change a throat canula is the subject of newspaper articles and the criticism of club gossip.

But with all this, when the jester is ill, or when the cynics suffer they call us in with the utmost celerity, and whilst their gratitude lasts they are profuse with their thanks and sometimes are magnanimous in their payments ; meanwhile their fears are relieved, for they know very well that other help there is none save in the hands of the arts of medicine and surgery so far as they have gone. It is a strange habit of the human race, especially that part of it which speaks the English or American language, that what they really most value they mostly joke about, and no matter what they say about us when they are well, they profoundly believe that when they are ill we can do something to relieve their sufferings, something perhaps to save them from death, and they know at all times, at least this, that we are very like the rest of the race, for the most part honest and benevolent, extremely anxious to do the best we can for our patient, for that is the only way in which we can secure our own welfare. We are in fact a great body of citizen specialists concerned with that interest of the community which embraces all that conduces to health and the prevention and cure of disease, just as the soldier is a citizen specialist concerned with all things affecting the

protection and honour of his country; the politician, a specialist who engages himself in securing its best methods of government, and the pastor, one who earnestly labours for its moral elevation. In every one of these special walks of life, and in all the innumerable others there are differences of methods and various schools of thought, each of which commands larger or smaller bodies of followers. Each of these have their arguments strong to themselves and weak to the others, and their differences are often irreconcilable. But without these differences no true progress would be possible, and though in the case of everyone of them we may occasionally see cause for right in the manner of their differences, in the differences themselves we can see nothing but satisfaction, for it means at least this, they are all striving for improvement, and improvement will be, must be, a necessary result.

Whatever may be said in criticism of the differences between the various schools of medical thought, still more of the pronounced differences of individual opinion between practitioners of medicine, this is certain, that within the realms of our art lies all that is known concerning the physical sufferings of humanity and all that can be made out for their relief. The very fact that we are all individually concerned to do the very best we can for those who are placed under our care involves the conclusion that we are collectively concerned to do all we can to advance the art we practise. That we all more or less fail to achieve what we desire is due to the fact that we are human and fail humanly, just as soldiers and politicians and even theologians occasionally fail. That the art of medicine is still imperfect is quite as true as that warfare is yet uncertain, and that politics seem pretty much, even yet, a game more of chance than skill, and that the very fundamental principles of theology seem yet to admit of the widest possible difference of opinion. None of these important and special divisions of human labour are yet one bit nearer perfection than is medicine or surgery, and I doubt if any of them is so progressive as either of the sister arts we have to teach and study in this building. That

which I am specially concerned with here, surgery, can boast of recent triumphs as great, I venture to think far greater than either the arts of warfare or politics, or even the science of religion itself. Certainly my own special department, gynæcology and abdominal surgery, has a record of advance in recent times which reads more like a fairy tale than matter of fact possibility.

For most of the great changes which affect what we can see of the earth we have to go to very simple causes. I doubt very much if any influence which has altered the earth's crust is so potent as that very simple fact that pure water absorbs carbonic acid gas, and that water so charged dissolves lime and gives it up again. Nothing has changed the earth's surface so much as the simple never tiring work of the earth-worm. So an immense impetus to the advancement of medicine and surgery has been given by the facility of locomotion afforded by the introduction of railways. They have altered everything, and they have very much altered the practice of our art.

The one great argument which may be urged and has been urged against the creating a chair such as I have now the honour to occupy is that it is a recognition or a development of specialism, a word which conveys a sense of horror to the minds of some well-meaning people whom I think sadly misguided. Let us go back for a moment to the beginning of this century and contrast affairs medical as they were then in this district and as they are now. In those days there were as there are now, general practitioners and specialists, though the varying distinctions between them were not as well deserved then as now. The advance of specialism came upon our profession with the Charter granted to the College of Physicians in 1518, and that to the Barber surgeons in 1541 by the 8th Henry. The apothecary was the general practitioner, and the physician was called in because it was thought he could give some special opinion, which he rarely could: what he gave was some specially complex prescription. The surgeon was called in because it was thought he could perform some special operative service, which, so far as we can find, had better never have been

attempted. Time rolled on and the survival of this arrangement at the beginning of this century was found in the fact that in our county towns, like Lichfield, where Erasmus Darwin commanded the whole of the central district, Stafford and Stratford-on-Avon there were consulting physicians. But with the railway impetus everything moved on and a newer and more scientific division of labour became necessary. The first specialty to be developed was that of ophthalmic surgery, and in the creation of this Birmingham had a remarkable and most creditable share. I can almost remember in my own school the creation of an ophthalmic department, and great wonder was created by its holder, the late William Walker electing to engage exclusively in ophthalmic practice. The hospital surgeons did not accept this with good grace at all, and even in my time an occasional eye was put out by one of the general surgeons hunting for a cataract. The physicians at that time contested the domain by adding a meagre and ignorant chapter on diseases of the eye to their insufficient text-books in the practice of medicine. But the enormous advances of ophthalmic surgery resulting from the labours of Helmholtz, von Graefe and Donders speedily put an end to their absurdities, and a well defined specialty at once commanded professional recognition and public confidence. Of course this was not accomplished without a struggle.

I can remember twenty years ago that men in a small country hospital insisted in cutting for squint when no muscle was at fault, and doing an iridectomy to the destruction of the globe merely because being qualified as surgeons and entrusted with hospital beds they insisted that they ought to practise everything and be able to do everything, though there were competent and thoroughly practical ophthalmic surgeons within ten miles of them. Such proceedings would not be tolerated now and I do not think they obtain anywhere.

The well-known argument against specialism, that the specialist can look at nothing except through his own lenses, that no man can be a safe practitioner for eyes unless he is conversant with everything, is one which has only a very partial appreciation, and

what of it is true is far more true of specialists than of specialism. In ancient days the village blacksmith had to make and repair a sword blade, a gun-barrel, a mowing knife, and a clock wheel, and for his requirements he did them all very well. But would anyone now care for a hair-spring in his watch made by a village blacksmith? or a gun-barrel made, even from the valuable stub-iron, forged in a country smithy? The division of labour has altered all this. But though the village blacksmith still makes gates and horse-shoes does he know less well how to handle the hot iron, or does the maker of the fine hair-spring know less of the qualities of the metal he deals with? Certainly not. So does the special ophthalmic surgeon know full well the nature of the tissues he has to deal with and the processes which they have in common with the rest of the body. The specialist must always have received a thorough training in the whole realm of medicine and surgery, and not forgetting what he has learnt there he must add to his knowledge a thousand minute details which the general practitioner can rarely become possessed of, and which he never can retain unless he is constantly amongst them.

You must, therefore, as part of your general training, know something of gynæcology and abdominal surgery, not with the desire that you should all practise it, for probably not more than two or three of those who I am now addressing will find their lines of life fall in that direction. But you must know how to advise your patients and how much may be done for them; and there are many, very many points upon which you must be really well informed concerning this specialty to prevent your getting into terrible mistakes. You must, for instance, know that there is such a thing as hydramnios and how to recognise it from ascitic effusion, lest you might be tempted to tap it or remove it as an ovarian tumour. Then having recognised it, what you are to do with it. I must leave it to your consciences, which must ever be burdened with the obligation to do for your patients the very best that can be done, for that is your own truest interest. Just as your teacher of ophthalmic surgery

will tell you how to recognise acute glaucoma and will show you how to perform iridectomy ; but that you should all be doing iridectomy is not desirable, for it will not be for the immediate advantage of your patients nor for your own benefit in the long run. In fact our desire and our power is not to train up a class room full of specialists but a set of well-trained, competent, and trustworthy general practitioners, with here and there a specialist as occasion may demand and circumstances may favour.

Let me now speak more particularly of the special department with which I am concerned. Gynæcology as a specialty is of very modern growth. A few books were written in the last century on special treatment of diseases of women, but no real advance was made till late in the present century when a group of obstetric physicians made Midwifery and Diseases of Women a distinct department. They were looked at askance by the regular physicians, and it was a long time before they had a reasonable recognition. In fact it is only of late years that the college to which they belong has given them due honour, and in many of the hospitals to which they are attached they are still treated as being neither fish, flesh, fowl, nor good red herring.

The greatest of these was unquestionably Simpson, and so immense has been his influence in this department that it is impossible to speak of its history without constantly referring to the labours of the great Edinburgh accoucheur. Indeed, I may say for surgery generally, he has done more than anyone who has lived since the days of Ambrose Parè, and he has left not untouched the face of medicine herself. By the introduction of anæsthetics alone, Simpson has made the great abdominal operations possible. Some two or three dozen abdominal sections were made before his time, but now I do as many every month. It is useless to say that some few patients had ether given them as an anæsthetic before Simpson used chloroform, that has nothing to do with the story. It was Simpson who fought the battle of anæsthetics, and Morton and Jackson would have been soon forgotten, and their inestimable boon would have been lost to the world if Simpson had not shaken it from pole to pole by his incessant advocacy of this great discovery.

Ambrose Parè made the second great advance in surgery by beating our great surgical enemy, hæmorrhage, by means of the ligature. But he left in the long ligature and Simpson made us cut it short, and thus he scores again as the greatest improver in modern times. He found our hospital mortality appalling and he left it reasonable. His incessant agitation has introduced many other reforms, which now makes our mortality creditable, and everywhere in the art the name of this great pioneer has been cut in ineradicable letters. Like all pioneers, Simpson went sadly astray, but this is essentially a part of the history of all original research. Columbus did not go straight from Queenstown to New York as the modern excursionist can do in seven days. Hudson's journey of discovery was fatal to all concerned, but the fur traders can now follow his route with perfect safety. Simpson's experiments in abdominal surgery had ghastly results, but our safety arose all the same from his efforts in giving us anæsthetics, well arranged hospitals, and the short ligature. The steps in this history of progress will form part of what I have to say when I speak of the history of abdominal surgery.

A few words now as to the necessity of a special study of the diseases of women, and how essentially abdominal surgery comes as a sequence of such study.

I have said that up to about twenty years ago the study of diseases of women formed a sort of appendix to the work of the obstetrician, but that was before gynæcology developed the enormous operative work which now gives it such prominence. The obstetrician was not called upon to operate and when he did ultimately attempt it the result was bad. What the explanation is I do not know, but it is the fact that no man largely engaged in midwifery practice has yet shown good results, or indeed anything but very bad results in abdominal surgery, and I am strongly of opinion that the obstetrician and the gynæcologist should be entirely separated on this ground alone. Further, the argument becomes stronger when viewed from the obstetric side of the question, for it is beyond all doubt that

engaging in the work of operative surgery on the part of the accoucheur is a source of danger to his parturient patients, and he ought not to do it. This is being so fully recognised that gradually and surely the old department of midwifery and diseases of women is splitting up into two perfectly distinct and easily separable divisions.

I need not tell you that the physical difference between men and women, simple though they apparently are, have results which are to be felt in every relation of life, and in none more than in the results of morbid processes. These results are by no means confined to the sexual organs or other organs, such as the breast, which though not purely sexual are so in a sort of complementary fashion.

The Professor of Pathology will tell you how sex influences many relations of disease, in a way wholly unexpected. How for instance ex-ophthalmic goitre is extremely rare in men and common in women, how osteitis deformans is practically unknown in men and quite common in women. How it is that the hands of elderly women should be twisted about in that horrible way and the hands of men should not be so affected we cannot guess, the more that its attacks are limited to the time of life when sexual differences are decadent.

Stranger still does the enquiry become when we find increasing evidence that the diseases which we have now rescued from hopelessness and placed within the list of curable affections by the recent advances of abdominal surgery, such as abscess and tumour of the kidney, and gall-stones, which cannot by any stretch of imagination be regarded as sexual diseases, are far less common in men than among women.

Finally, not only do the special ailments of women deserve a special study and special students by reason of their importance and the possibilities of their cure, but they do so from their increasing frequency. That all the more special ailments of women, such as ovarian and uterine tumours are on the increase I have no doubt whatever. To such a statement the common answer is that it is more likely that the explanation is that we

can diagnose them better now, but that is not enough. Simpson could diagnose them as well as I can, and he had the whole world for his clientèle; he saw probably twenty people every day for one I see, yet I am sure that I see as many uterine and ovarian tumours in a month as he saw in a year. These ovarian tumours are as a rule so easy to diagnose, and the only method of treating them in olden times was to tap them and repeat the tapplings till the patient died. Cases that were tapped twenty up to a hundred times constituted incidents in village and country practice not easily forgotten. I therefore ask men like the Freers of Stourbridge and the Nasons of Nuneaton, men who have known the practice of their district for half a century, if they think there is any difference in the proportion of these cases, and their answers are uniformly in the affirmative. That uterine myoma is a new and progressive disease is shown by the facts of its history in the United States. It is a perfect curse amongst the black women, who very rarely suffer from ovarian cystoma, and amongst their cousins in Africa myoma is absolutely unheard of. Thus in at most five generations, probably only in three, a new disease, not exanthematic and of absolutely chronic progress, has made its appearance in a people otherwise relatively free from disease.

Again: If I take the small list of men who perform habitually the operation generally known as ovariectomy in this country, I get a number of these operations performed every year—about six hundred; and if I add another three hundred for the work of all the casual operators, and the average run of life for an ovarian tumour (now that we remove them early), we get a constant population of above a thousand ovarian tumours going about. If this population was the same in 1838, we should have heard a great deal more of these cases than we do, for it is not difficult to estimate, from my own experience, that an ovarian tumour tapped up to the very end will average thirty tapplings in about six years. That is to say, we should have had a constant population of ovarian tumours six times as great as now. Six thousand ovarian tumours tapped five times a year

would give thirty thousand tapplings every year—a perfect impossibility, from all that can be gathered from the practitioners left amongst us to tell us about it.

Still more curious is the fact that descriptions of ovarian tumours are to be found in only comparatively modern books, and they do not seem to have become matters of ordinary experience till well on in this century. With all these reasons before us we cannot, I think, wisely come to any other conclusion than that the whole realm of medicine and surgery is too wide a field to be cultivated by all with advantage to its advance. The division of labour is a principle which led inevitably to progress whenever applied to the work of man, and the experience of its application to medicine and surgery has been equally satisfactory.

ON THE METHODS OF DILUTING THE BLOOD AND THEIR CLINICAL APPLICATION.*

ESPECIALLY WITH REFERENCE TO THE SUB-CUTANEOUS
INJECTION OF WEAK SALINE SOLUTION.

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THE subject which I wish to bring under your notice to-day is that of the various ways in which we can dilute the blood, and the necessity for this method of procedure in the practice of medicine.

I feel that there is some apology due from me for occupying the valuable time of this association with the consideration of so simple a subject—one of which, I doubt not, many here will have a much wider knowledge than myself. But my reason for

* Paper read before the British Medical Association, at Glasgow, August, 1888.

doing so is that I am sure we have in the gradual loss of water from the blood, in certain morbid conditions, a most important indication for treatment, and that, so far as I can ascertain, it is far less generally recognised and acted upon than it ought to be.

The reconsideration of it seems to be especially desirable at this time of year on account of the prevalence of a disease that is sometimes fatal through a rapid drain of water from the system. I refer to the gastro-intestinal and intestinal catarrh in children of which we usually see so much this month.

In addition to this class of case, others are frequently occurring where the persistence of vomiting or some mechanical obstacle to or danger in the reception of liquids by the stomach entails much suffering or even risk of life to the patient; and here we must meet the need of water by supplying it in some way other than the natural one.

Among the methods at our disposal for this purpose there is one the revival of which is the special object of this paper. This is the injection, with due care, of a pint or more of weak saline solution into the cellular tissue of some suitable part of the body.

It is a method for which I cannot lay claim to any novelty, for it was used exactly forty years ago by Dr. Buchanan, of Glasgow, although with discouraging results. It was again advocated thirty-four years ago by Dr. B. W. Richardson,* but was not adopted to any extent until the last four or five years during which time it has been often used in combating the inspissated condition of the blood that exists in the collapse stage of cholera. But I claim that this means of treatment deserves a more extended application than it has had in the past.

In consequence of this limited application, the numerous papers on this subject in the periodical literature to which I have been enabled to refer, by means of Dr. Neale's Medical Digest, deal almost exclusively with the treatment of Cholera, and this must be my apology for the frequency of reference

* Rankine's Abstracts, 1854, vol. ii., p. 250.

to this disease when dealing with the historical aspect of the subject.

But before describing this method more minutely it would be well to consider briefly the other claims of absorption which are at our disposal for the purpose of diluting the blood. These various channels may be conveniently summarized as follows :—

I.—Absorption by Natural channels.

1. From the Stomach in the usual way.
2. From the Rectum and large intestine—
by means of warm injections.
„ „ cold injections.
3. From the unbroken skin.
4. From the Bladder.

II.—By introducing liquid directly into the circulation.

1. Into the Blood vessels, *i.e.* intra-venous injection.
2. Into Lymph spaces.
(a) Larger Lymph spaces—Peritoneum—Pleura, &c.
(b) Intercellular Lymph spaces by subcutaneous injection.

I.—By natural channels—1. By the mouth.—I need not do more than mention this, the only natural way of introducing water into the animal economy, for the utility of allowing a generous supply of liquid in cases where disease involves a drain of water from the system is now pretty generally recognised except, of course, under exceptional circumstances, such as those existing in diabetes. Full discussion of this question would lead me too far, and being apart from the main purpose of this paper I must pass on to consider other methods that can be adopted when this one fails.

2. By the rectum and large intestine. We have here at our disposal an extensive absorbing surface, but one of which we cannot very readily avail ourselves owing to the fact that but small amounts of liquid can be retained by the rectum. This difficulty has been overcome in the treatment of some diseases, such as dysentery, by the careful passage of a flexible tube through the sigmoid flexure, thus permitting the injection of 6-8 pints of warm water into the colon. This method was

first advocated and practised to any considerable extent by Surgeon-General Hare* in treating the dysentery occurring among the troops during the Burmese war of 1852. He adopted this method with the view of simply clearing out the inflamed bowel, and doubtless the success he achieved in curing the disease may be attributed to the removal from the colon of the acrid secretions and putrefying remains of food which it contains. But in the acute cases, in which this treatment seems specially beneficial, it appears to me extremely probable that a considerable part of the immediate benefit that accrues in these cases must be attributed to the supply of liquid that is needed by the blood—a need testified to by the hollow features, the sunken eyes, the extreme thirst, and other symptoms. It may be objected that the water seems to be mostly returned at once; but in spite of this, the conditions that obtain in the colon are so favourable that a rapid absorption of a considerable portion into the blood is bound to occur.

Many others since 1854 have written in praise of this method of treating dysentery, and among the modifications proposed that of substituting the action of gravity by means of a funnel and tube for the enema pump originally recommended seems the most worthy of note.†

This latter plan is adopted by Professor Monti, of Vienna, in dealing with catarrh of the large intestine, especially in the case of children. He finds that a pressure of two feet of water is sufficient, and he further advises that the difficulty usually experienced in passing the tube through the sigmoid flexure be overcome by first allowing the rectum to become full and then, when its folds of mucous membrane are all smoothed out, the tube can easily, and with very gentle pressure, be passed on into the descending colon.

The intestine is to be irrigated daily and he begins with water at a temperature of 70° to 75° F., and then gradually diminishes it on successive irrigations until he arrives at 45° or

* Rankine's Abstracts, 1854, vol. ii., p. 258.

† Dr. Sansom, Med. Times, vol. ii., 1866, p. 555.

50°. He considers this method especially applicable to rickety children, in whom the catarrh is complicated by prolapse of the rectum.

Another and a valuable means of treating the collapse which so rapidly ensues in cases of vomiting and diarrhoea in children is the use of enemata of *iced* water repeated every hour, or oftener if necessary.

This has been found not only a very useful but a very safe remedy in the severe summer diarrhoea of infants and children. It is a method largely used at the Birmingham General Hospital, and with very marked success since its introduction into the out-patient practice three or four years ago by Dr. Simon, and yet during the two years that I acted as resident medical officer there I did not meet with a single case where any unpleasant results followed its use.

The amount that will be retained varies from one or two ounces in an infant to five or six ounces or more in an adult, and where, owing to relaxation of the sphincter or other cause, the first one or two enemata are not retained their frequent repetition seems to supply enough water to produce the desired result, as judged by the improvement in the general condition and appearance of the patient which is observable.

Their good effect is also, doubtless, in part due to the local effect of the cold upon the irritated and inflamed bowel tending to diminish shock.

3. Through the unbroken skin.—Although wet packs have been claimed* as a means of administering water in cases of cholera collapse, I think it must be acknowledged that such an extremely small amount can be absorbed in this way that we need not consider it further.

4. From the bladder.—The slight powers of absorption possessed by this organ places this method in a similar category as the last mentioned, although spoken of by Richardson† and others as being a possible means of giving water.

* *Lancet*, 1861, vol. ii., p. 162.

† "On Coagulation of the Blood," 1858, p. 130.

II.—By introducing liquid directly into the circulation.

1. Into the blood stream by means of intravenous injection. So much has been written of late on this subject, that any attempt to discuss it here, even if it were desirable, would lead me too far, and I therefore need not do more than point out that this method is best suited to those cases where the solids of the blood are deficient as well as the water, and therefore something more than simple dilution is required, as in cases of hæmorrhage or anæmia. In these cases liquids of sufficient specific gravity cannot be readily introduced by other means, and some form of intra-venous injection seems most advisable. Where however simple dilution of the blood is indicated some much simpler operation can be used instead of this rather complicated one.

2. By injection of liquid into any of the lymph spaces of the body we have a means of throwing liquid into the blood that in rapidity of action is second only to direct injection into a vein, provided that the conditions are made favourable to endosmose into the blood; and in this mode of procedure we do away with many of the dangers and most of the difficulty of the operation of intra-venous injection. But before going further we must consider what are the conditions that favour osmose into the blood vessels. These conditions, as ascertained by physical experiments may be summarised as follows :—

The amount of endosmose through an animal membrane into a tube, such, for example, as a blood vessel, is directly proportional (1) to the alkalinity of the liquid in it as compared with that outside; (2) to the specific gravity of the liquid in it as compared with that outside; (3) to the rate of flow in the vessel. Thus the most favourable condition for absorption of water from the lymph spaces into the blood (which is, I need hardly point out, an alkaline liquid of high specific gravity and in rapid motion) would be to have an acid liquid of low specific gravity in the spaces surrounding them. We cannot however use acid liquids for injection on account of their irritating effect upon the tissues, and it is found by experience that it is not

necessary to do so, for a neutral or slightly alkaline liquid is taken up by the blood quite rapidly enough. In fact Dr. B. W. Richardson* found by experiments on dogs that an amount of water equal to one-sixth of the body weight was absorbed into the blood in twelve hours. These results were so successful that he recommended and adopted this means of combating the inspissation of the blood in the collapse of cholera, and with a good result.

From the time that Dr. Richardson thus introduced this method to the profession in 1854, it has been advocated by many, but has not as yet had a very extended application, although recognised as a useful means of treatment by some of those who see a good deal of cholera. That the restorative effect in cases of collapse of this sudden taking up of water by the blood might be serviceable in other conditions as well as cholera is, I think, certain; and it seems to me very likely that the sudden and remarkable improvement that is sometimes noted during the operation of abdominal section in patients suffering from peritonitis is due to the water taken up into the blood while washing out the cavity of the peritoneum.

I am quite sure that the supply of water to the system, by some means or other, in cases of peritonitis with vomiting is an indication for treatment that is not sufficiently recognised, and I hope that in future patients with the persistent vomiting that occurs in this disease may be spared much suffering, and lives even may be saved, by meeting this indication. But I shall refer to this again when dealing with the subcutaneous injection of liquids. Injection of liquid into the *pleural cavity* has also been used as a means of diluting the blood, but it seems to have no special recommendation over other means at our disposal.

(b) By means of injections into the cellular tissue.—In this, the last method of which we have to speak, the intercellular lymph spaces are used as the channel for absorption of water; and although not so rapid a means of diluting the blood as

* Rankin's Abstracts, vol. ii., 1854, p. 250.

injection into the peritoneum, still it is quite rapid enough for all but extreme cases. In this way from two to three pints of liquid can be given daily with but little discomfort to the patient; and where collapse is profound and the blood very inspissated, as in a case recorded by Prof. Cantani during the cholera epidemic at Naples in 1884, as much as a pint and three-quarters were absorbed in a quarter of an hour! This seems to be by far the simplest and most universally applicable of the means here discussed for making good a continuous drain of water from the system that cannot be met in the usual way by the stomach or by the rectum. Its chief recommendations are, I think, the following:—

Its simplicity—The only apparatus necessary being a funnel, tube, and hypodermic needle.

Its safety—There seems to be extremely little if any danger, provided that a suitable spot be chosen and strict antiseptic precautions observed.

Its efficacy—As already pointed out, this method is rapid enough unless very large amounts of water be required in a very short space of time.

After its introduction, 30 or 40 years ago, as above mentioned, this operation then seems to have been forgotten, and fallen into disuse until it was revived again in 1880 as a means of treating cholera, by Cameron Macdonall, F.R.C.S., Brigade Surgeon of the Bombay Army, who had seen it employed some years previously in Bengal. He mentions it favourably in the *Lancet* for October, 1883, and Dec. 5, 1885. It was extensively used by Prof. Cantani at Naples during the epidemic of 1884, and in the *Lancet* for Sept. 26, 1885, he records the results of 226 cases treated by this method, which he calls "hypodermoclysis."

The apparatus necessary consists of a glass funnel of about a quarter of a pint capacity, to which is attached a piece of india rubber tubing, two feet or so in length, with a fair sized needle of a hypodermic syringe tied into the end of it. To the funnel is fixed a piece of string for the sake of suspending it

at a convenient height (about a foot and a half to two feet) above the patient's head. An arrangement for raising or lowering it as desired, to increase or diminish the rate of flow, can easily be made by means of some form of extemporised pulley (*e.g.*, a loop of string on a nail in the wall) and a small weight as a counterpoise. The solution had better be filtered before it is injected; but this can be done well enough by means of a small piece of cotton wool pressed gently into the mouth of the funnel.

The apparatus must be rendered aseptic by means of some antiseptic, such as carbolic solution, before use, and the salt solution must be boiled for the same purpose. The heated solution is now run through the apparatus until the carbolic acid has been removed, and care must be taken not to let the level of the liquid sink below the cotton wool plug, else air will be drawn through it, and the flow of the liquid afterwards will thereby be much retarded.

A further precaution necessary is that the neck and shoulder of the patient should be well covered with cotton wool during the injection to avoid chilling the surface and cooling of the water already in the cellular tissue.

But to return to the operation. As soon as all is ready the skin is cleansed, and the needle, after being dipped in some antiseptic, is inserted just through the skin. The funnel is now raised to about one or two feet above the patient, and if the needle have been properly introduced into the cellular tissue, the force of gravitation and the natural power of absorption may be left to complete the operation.

If the liquid do not run freely, but forms a small swelling the size of a filbert or so round the needle it is probably not inserted quite deep enough, and should be advanced a little, or the direction slightly altered. To prevent any risk of septic infection, while the injection is in progress it is well to surround the needle with a shield of lint or cotton wool soaked in glycerine or boracic acid.

With a pressure of about 18 inches of water a pint of the

solution ought not to take more than an hour or so for its injection if the needle be not very small. As soon as a sufficient amount has been injected under the skin and the needle withdrawn, the aperture must be closed to prevent the dribbling away of the water. This is often not very easy because of the large swelling caused by the filling out of the cellular tissue with water, and the fact that pressure of course increases the leakage. It may be done by means of cotton wool and collodion in the usual way, but perhaps a better plan is to hold over the opening a piece of adhesive plaster the size of a shilling until its edges have been fixed down firmly with collodion and cotton wool.

As regards the situation for injection of the water, the thighs or sides of the abdomen are suggested as the most suitable position, and the neck is to be especially avoided on account of the danger of oedema glottidis from gravitation of the liquid downward, as pointed out by Dr. Michael of Hamburg (*Lond. Med. Rec.*, Sept., 1884), and Prof. Cantani (*loc. cit.*) Whether this be more than a theoretical objection to what would otherwise be the most suitable situation, on account of the laxity of skin and rapidity of absorption, I do not know that anyone has had the boldness to ascertain. It seems to me that the best situation is the infraclavicular fossa, both because of the laxity of the tissues, and also because it is a situation that is easily accessible, with but little disturbance of the patient, and this opinion has been fully borne out by my experience of the operation.

The solution that seems most desirable is the ordinary normal salt solution, viz., .78 % of common salt (*i. e.*, gr. 68 per 1 pint), a solution that is perfectly bland and non-irritating to the tissues. This is, I think, an important consideration on account of there being less likelihood of any inflammatory trouble resulting than after the use of more irritating liquids, such as pure water or stronger saline solutions. Further, the use of this solution is, I believe almost, if not quite, painless at the time, although followed by some tenderness for twelve hours or so, whereas the same cannot be said of the other solutions recommended, except

perhaps that used by Macdowall, who seems to have used a weak saline solution. That used by Prof. Cantani consisted of .4 % of common salt and .3 % of carbonate of soda, and it is spoken of by Dr. Tibaldi (Lond. Med. Rec., Nov. 1884) as causing pain, and that recommended by Dr. Michael (Lond. Med. Rec., Jan., 1884) consists of 8.75 % of salt ; the use of this would, I think, from my experience of a strong solution on one occasion, not be unattended by pain. These more alkaline, or stronger solutions, have the further disadvantage that the rate of osmose into the blood must necessarily be less rapid than in the case of the normal solution in accordance with the case above referred to.

As regards the temperature of the liquid, this may, if desirable and if the apparatus necessary be at hand, be regulated by means of a double vessel with water at a definite temperature in the outer one, as used by Prof. Cantani (*vide* Lancet, Oct. 17, 1885), but I do not think these precautions so necessary here as in the case of intravenous or intraperitoneal injections, and I have found that the temperature can be sufficiently regulated by means of the addition of small amounts of very hot solution as that in the funnel cools down.

In a case where the collapse and dehydration of the blood are not very extreme it will probably take six or eight hours for the one or one and half pints of liquid to be absorbed, but the operation can be repeated in eight or ten hours, if necessary, on the other side of the body, and thus two or three pints of liquid given daily.

This method of treatment was first brought under my notice while resident in the General Hospital, in 1886, by Dr. Saundby, who, referring to its use in cholera and the likelihood of its being beneficial in cases of diarrhoea infantum, wished it adopted if an urgent case where it seemed to be indicated came under treatment. Although no case occurred during the remainder of my term of office at the hospital, where it seemed necessary for this complaint, I have performed it with beneficial results in treating the same symptom arising in a different way ; and in

looking back on cases of gastro-intestinal catarrh, seen prior to the date mentioned, I can remember one or two cases where I think the child's life might have been saved had this treatment been adopted, and also one case since that date where enemata of two ounces of iced water were given every hour for a day or so, and mostly retained without marked benefit, and a diagnosis of meningitis being made on account of the nervous symptoms it was not thought desirable to go further in this direction. The *post mortem* examination however revealed simply extreme anæmia and dryness of the organs, and intestinal catarrh; and it seemed probable that a more effectual supply of water to the system might have saved the life. The cases in which I have used, or seen used, this means of treatment at the General Hospital are the following, and I am indebted to the physicians of that institution for permission to refer to them.

I performed this operation on three patients. Two were cases of peritonitis from perforation of the bowel, and the third was a case of diabetic coma. The operation was successful in all, so far as absorption of the water and freedom from any difficulty was concerned; and in one case, although the patient was dying from typhoid fever complicated by perforation of the bowel, the operation was repeated three times, as it gave so much relief.

Although in these cases the beneficial effect was more or less masked by the rapidly approaching fatal issue, still the practicability and usefulness of the operation were sufficiently evident; and in two other cases (one of which I will give in detail) which came under my care while temporarily acting as visiting physician to the Jaffray Suburban Hospital the effect of the injection was more marked, and it seemed to have a specially good effect upon the symptom of vomiting. In fact it seemed as if, after this symptom has persisted for a certain time, the need of water in the blood itself caused a continuance of the vomiting, and as soon as this need was satisfied, the vomiting ceased; but of course whether this be so or not can only be determined by more extended trial than in the two cases which I can bring forward.

Case 4.—A woman aged twenty-four, admitted Nov. 27, 1887, convalescent from erysipelatous cellulitis of left arm and shoulder, and with rather troublesome gastric symptoms, viz., some pain immediately after food, especially if hot or cold, and more or less constant pain, aggravated by lying on her back or left side. On the night of admission she vomited four ounces of dark-coloured blood, and the gastric pain became more severe. All solid food was therefore stopped by order of the resident medical officer, Dr. Sidney Short, to whom I am indebted for the notes of these cases, and on seeing her the day after (Dec. 1st), as the hæmatemesis had continued, and there seemed no doubt about the diagnosis, I thought it right to go further and stop all food by the mouth, giving nutritive enemata instead. These were continued throughout her illness.

On December 3rd, she vomited eight ounces of blood and the pain at the same time becoming worse, Tr. Opii was added to the enemata and, later in the day, morphia was resorted to. Retching and bilious vomiting began in the afternoon, she became delirious, the pulse rose to 120 and got much weaker towards evening, and the abdominal pain became general instead of being localised in the epigastrium. The evening temperature was 101° F.

On December 4th she remained in much the same state, the vomiting was a little less and a few hours sleep were procured for her by large injections of morphia.

Next day, Dec. 5, pulse was 112 and slightly better, otherwise in much the same state. Still retching and vomiting a little bilious mucus, but no blood, has been able to keep nothing on her stomach except about 1 oz. of cocoa to which she had taken a fancy. At 5 p.m., I saw her and was much struck by the change in her appearance since my last visit. The face was pinched and anxious, the eyes sunken, pulse very soft and rapid. She seemed in a state of collapse and not likely to live many hours. She could retain nothing by the mouth, and more than half the enemata had been returned. At 7 p.m., half a pint of salt solution was injected into the pectoral region. We were afraid to

give more for fear of lighting up again the cellulitis from which she had only just recovered, and the right shoulder we could not reach owing to her lying on that side. After the injection she became quieter and the pulse improved, but the thirst was not appreciably lessened. She had a better night, without morphia, and was able to keep down more liquid. Next morning the pulse was 104 and stronger. The pectoral region was very tender, but all the liquid had been absorbed.

During the next twenty-four hours she retained about half a pint of the liquid she drank and began to look a little better, but on the 7th the retching and bilious vomiting began again. As the tenderness was now only very slight another half-pint was injected into the same shoulder at 12 o'clock. At 5 p.m. when I saw her she was looking very much better and the pulse was stronger though rapid (120). The temperature was about the same as it had been from the beginning, viz., about 99'4.

After this injection the inability to retain liquids seemed to disappear, and she was allowed a more liberal supply in consequence and took about two pints of soda water daily, although she could not for several days keep down milk. The shoulder was much less tender after the second than after the first injection, and the general tenderness of the abdomen rapidly subsided although the epigastrium remained tender till Dec. 11th. After this there was no return of the severe symptoms or the pain, and the amount of food given by the mouth was gradually increased. She was discharged cured on Jan. 14th and remained free from the symptoms of ulcer although subject to dyspepsia.

Case 5.—Woman, aged thirty, has been under treatment on several occasions for acute exacerbations of a chronic gastric catarrh, complicated by considerable dilatation of the stomach. The treatment was exceedingly difficult on account of the feebleness both of the digestive and also of the muscular power of the organ. In one of the later attacks there had been some hæmatemesis, and it seemed probable that there was some ulceration in addition to the other morbid conditions. By

careful dieting and the use of papain however, the stomach seemed to have recovered itself fairly well and the patient recommenced a more active life. But on the night before admission she woke up with violent pain about one an quarter hours after going to bed. For this, the only cause seemed to be some rather unusual exertion during the evening, and this seemed the more likely since on one or two occasions as within the last day or two sudden exertion had caused a very sharp and severe epigastric pain that lasted but a few minutes. In the present instance it rapidly increased in severity, and in half an hour she vomited more than a pint of partly digested food, its character not being specially noticed. The vomiting considerably increased the pain, and she continued retching for an hour. This attack was followed by a rigor, which recurred at three p.m. In the afternoon she was in considerable pain, the abdomen was very tender, and parietes slightly resistant. Treatment was by means of opium and nutritive enemata.

Second day. As the abdomen was very tense and resistant and the pain severe, cold was applied by means of a coil of india rubber tube through which iced cold water was allowed to flow. This gave considerable relief, and the temperature, which had been between 102 and 104 since the attack began, was reduced to 99 in a few hours and kept down, and she went on fairly well until the fifth day, when the temperature was down below 97, and at night vomiting commenced. The coil was allowed to get warm and was removed, but she continued to get worse, and the vomiting increased. On my visit next morning (the sixth day of illness) I found her very much changed, the face being pinched and eyes sunken, a well-known appearance in abdominal affections. The abdomen was still very tender, but the walls were much less rigid than before the cold application was begun. The temperature had risen to between 99 and 100. The pulse was about 100, and not so bad as the patient's appearance would lead one to expect. A pint and a-quarter of salt solution was now injected into the right pectoral region, and seemed to give marked relief, for in

the course of the afternoon she was able to keep down some champagne, and the sickness abated. The morning after the injection the improvement had continued, and the patient is now described as being "much better, having slept off and on four hours and not been sick. Pulse 100, very good, and much fuller. Shoulder red, stiff, and painful." Next day the shoulder was practically all right again. From this time the improvement was steady for a fortnight and there was no return of the peritonitis, and, although there were several severe relapses of gastric pain and vomiting during the next few months, there does not seem to be anything upon which I need comment from the point of view for which I now bring it forward.

Remarks.—In these two cases I do not wish to claim that the treatment I adopted cured the local inflammation that existed in the peritoneum or stomach or both, but that it relieved one very distressing symptom that seemed to be hurrying the illness on to a fatal termination by exhaustion. By relieving this symptom we gave the remedies used time to act and put nature under more favourable conditions in her contest with disease. In conclusion, I may say that I have been emboldened to bring this subject forward once more by the conviction that the recovery of patients may be expedited and lives saved by a more general appreciation of facts I have brought forward.

REVIEWS.

THE DISEASES OF THE BIBLE.*

THE first work published in Britain on the subject of diseases in the Bible was from the pen of the illustrious Dr. Richard Mead, Court Physician to George II. His scholarly *Medica Sacra* was necessarily restricted to a limited circle of readers, the original edition being in Latin, and written, as Mead says, "iis tantum qui aut sacris theologicis aut medicis, initiati sint et eruditi." Sir Risdon Bennett's recent treatise on the same subject is written for a different class, being primarily intended, as the preface tells us, "for the ordinary educated student of the Scriptures, whether professional or not." The result is an unpretentious volume of 144 pages, issued by the Religious Tract Society in their series of By-Paths of Bible Knowledge.

In reviewing a production of this character the critic must concede the claim that it be not judged solely from the standpoint of medical science. On the one hand the author is beset with difficulties arising from questions of philology and Hebrew antiquities; and on the other hand he must accept the position that the subject of Biblical diseases is indissolubly connected with spiritual principles common alike to the Jewish and to the Christian religion. Due allowance should therefore be made for these complications.

The first and longest chapter is taken up with the discussion of Biblical leprosy, and an endeavour is made to ascertain the exact nature of the disease. Is it *elephantiasis Græcorum* that is meant by the word? This is the generally accepted view; but the author's researches have led him to a different conclusion. He has taken great pains to investigate the signification

* The Diseases of the Bible. By Sir Risdon Bennett, M.D., LL.D., F.R.S., Ex-President of the Royal College of Physicians. London: The Religious Tract Society. 1887.

of the Hebrew word *tsara'ath*, translated "leprosy" in the authorised version. The old Greek version of the Pentateuch renders it *λέπρα*, and it is unquestionable that in Greek medicine the latter word was applied to psoriasis in its various forms. Sir Risdon Bennett is disposed to regard Biblical leprosy as essentially a non-fatal cutaneous disease, and he is quite satisfied that there is no sufficient evidence that elephantiasis is denoted by any of the disorders described under the head of *tsara'ath*. It would appear that the Latin word *lepra* was first used to signify true leprosy about the eleventh century, having theretofore been used only of psoriasis. Hence arose the confusion consequent upon two dissimilar maladies being called by the same term; and it is suggested that the error (as Sir Risdon regards the authorised translation) acquired a fast hold in the Middle Ages, when leprosy was very prevalent. The reviewer has only seen two cases of *elephantiasis Græcorum*, and he is bound to admit that the detailed accounts of so-called leprosy in Leviticus xiii. and xiv. can hardly be considered clinical descriptions of those fairly typical cases. It is generally admitted that true leprosy is not very common among the Jews.

The second chapter deals with plagues and epidemic diseases. The author suggests that the plague described in Exodus IX. has analogies with anthrax (splenic fever): this is in harmony with the views of Bollinger. It is to be regretted that carbuncle is mentioned as the equivalent of anthrax and charbon (p. 64), for the skin lesion of these latter—which are synonymous—is commonly known as malignant pustule, though anthrax eschar would be a more correct designation. (This subject was discussed in the Review for August, 1887). It would be well, also, to restrict the term woolsorters' disease to the internal forms of anthrax. A point of interest is incidentally mentioned on p. 72, the phraseology (*πυρετός μέγας*) of the evangelist Luke, being such as was in vogue amongst the Greek physicians, and, therefore, affording evidence of his having received the regular medical education of his day.

The chapter on nervous diseases includes *inter alia* lunacy

and paralysis, and some remarks are offered on the vexed subject of demoniacal possession. Sir Risdon thus expresses his opinions :—"When nothing is distinctly stated to the contrary, we are justified in assuming that the diseases, whether inflicted in the ordinary course of Providence or not, were subject to the same ordinary laws as those of the present day." "Science has not yet been able to solve the mystery of the natural and normal relation of mind to matter . . . still less is it competent to deal with what we are compelled to call the supernatural." "Nor can those who receive the Bible in any true sense as a divine revelation, doubt that it teaches the existence of angelic beings, both good and evil, who are commissioned or permitted to exercise powers that we can only call supernatural." He would explain many instances of faith-healing as examples of the powerful influence exerted by mind on body ; but he cannot admit that all the cures recorded in the New Testament are thus explicable, for they were wrought "on forms of disease, and in ways, that do not admit of explanation by any such exercise of mental power as we possess."

In a chapter on a group of special diseases, Sir Risdon advances the view that the death of Herod Agrippa I. (Acts XII.) was caused by the perforation of intestinal worms. Certainly the account given by Josephus affords strong corroboration.

Exception may fairly be taken to the inclusion of old age in this work. The phenomena of advanced life are as truly physiological as those of infancy or maturity, and should be distinguished from actual disease. Terence doubtless made a mistake when he wrote "*Senectus ipsa est morbus*." Sir Risdon's chapter on the subject is nevertheless an interesting one.

In a concluding chapter on the Physical Cause of the Death of Christ, the authority of Dr. Stroud, as set forth in his publication of 1847, is entirely followed. The cause assigned is rupture of the heart from mental agony, and the evidence adduced by Dr. Stroud is weighty and convincing. The reviewer is indebted to the courtesy of Dr. Samuel Houghton, of

Dublin, for his address delivered in Caius College, Cambridge, on this subject, wherein the same view is upheld. That much ignorance prevails on the matter is attested by the inaccurate representations of such famous painters as Perugino, Raffaele, Rubens, Michael Angelo, and Caracci, each of whom portrayed the spear wound on the right side.

Sir Risdon Bennett's book fulfils the intention stated in the preface,—an intention not unworthy of the labours of an eminent physician; and his modest and manly avowals do him credit as a man. The temperate language and reverential spirit of the author befit the theme discoursed upon.

NERVE PROSTRATION AND OTHER FUNCTIONAL DISORDERS.*

IN some quarters there is a tendency to sneer at any treatise upon the group of symptoms which make up the condition recognised by the term neurasthenia. We strongly deprecate this attitude, and are of opinion that the condition recognised by the term neurasthenia is a very definite and real malady. Moreover, it is on the increase, and mars the happiness of many families. The treatment of this condition is likely to remain inadequate while the condition itself is pooh-poohed and neglected. In a large text-book on diseases of the nervous system of nearly 1,000 pages, recently published, the large space of half a page (!) is devoted to the consideration of neurasthenia—a condition which is causing misery to thousands in this country. We therefore give Dr. Roose's volume a hearty welcome, showing as it does that English physicians are beginning to pay attention to these very distressing mental symptoms.

The title of Dr. Roose's book is somewhat misleading, for we find it contains chapters on dyspepsia, constipation, and diarrhoea, while only the first 69 pages are devoted to the consider-

* Nerve Prostration and other Functional Disorders of Daily Life. By Robson Roose, M.D. London: H. K. Lewis. 1888.

ation of nerve prostration. We rather think Dr. Roose has used the term functional too liberally, and we are puzzled at finding facial paralysis, sciatica, and chorea included among functional disorders. The book is well written, and the treatment recommended is sound and judicious.

VENTILATION AND DRAINAGE.*

MR. MORRISON'S lecture, which was delivered on March 16th, deals with a subject admirably suited for popular teaching. The diffusion of knowledge of the elementary laws which conduce to public health is a most desirable object. In no respect is popular ignorance more apparent than in matters dealing with ventilation and drainage. Mr. Morrison's lecture contains a very exact and readable exposition of the principles which apply to domestic sanitation. On page 1 we find, "Some people say 'a little knowledge is a dangerous thing,' but I am convinced that ignorance is much more dangerous." We agree with the lecturer, but we should like to remind him that the often misquoted apophthegm ought to read "a little *learning* is a dangerous thing"—a little learning, which is far short of real knowledge.

NOTES ON SURGERY FOR NURSES.†

THE first edition of this little work has run out within twelve months. This speaks well for its popularity. The second edition has been revised and corrected, and a special chapter has been added on the Surgical Nursing of Children.

* Queen's College, Birmingham, Popular Science Lectures. Third Series, 1888. *The Air we Breathe*: No. 4, Ventilation and Drainage. By J. T. J. Morrison, B.A., M.B., B.C. (Cantab.), F.R.C.S., Casualty Surgeon to the Queen's Hospital.

† Notes on Surgery for Nurses. By Joseph Bell, M.D., F.R.C.S. Edin., Consulting Surgeon to the Royal Infirmary, &c. Second Edition. Edinburgh: Owen and Boyd. 1888.

RETROSPECT.

URINARY AND RENAL DISEASES.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.
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Roberts on the amorphous urate deposit.—Sir William Roberts (Med. Chronicle, March 1888, p. 441) has found that the common uratic deposit consists mainly of quadrurates, salts which are readily decomposed by water setting free uric acid, but the salts of urine, sodium chloride and potassium phosphate, especially the latter, have the power of preventing this decomposition, and the author supports the notion that common salt, taken as food or in drink, prevents the formation of calculus, and *a fortiori* we suppose, though he does not say so, potassium phosphate given medicinally would have this effect.

Hæmoglobinuria in acute rheumatism.—M. Hayem (Gazette des Hospitaux, Feb. 16, 1888) has recorded a case of acute rheumatism in which hæmoglobinuria occurred.

Lactic acid in urine.—Colasanti and Moscatelli (Bull. del'Acad. Med. di Roma, 1887, p. 482) found lactic acid in the urine of soldiers after a march, and suggest that it is probably a product of muscular activity which passes into the urine.

Albuminuria produced by injection of albumen.—Snyers, in a separate pamphlet published (Brussels, 1887) last year, finds that albuminuria caused by intra-venous injection of egg albumen is quite transitory and disappears in 24 hours, the albumen eliminated being the same as that injected; the passage of the albumen is without injurious effect upon the kidneys. This is opposed to the theories of Semmola, who thinks the passage of albumen through the kidney secreting apparatus causes irritation and sets up nephritis; he believes that Bright's disease is always hæmatogenous in its origin, and he assumes the formation of some abnormal albumen in the blood which, like egg albumen, cannot be retained by the kidneys, but in passing through these organs sets up inflammation.

Influence of diet on albuminuria.—Oestreich in his inaugural dissertation (Berlin, 1887) compares the influence of various diets on a patient with nephritis in Leyden's clinic

Diet.	Albumen per cent.	Daily loss of Albumen.
Mixed diet	0·1—0·9	1·6—8 grammes.
Meat „	0·17—0·2	1·92—4·14 „
Milk „	0·1—0·25	1·35—5 „

This result is very paradoxical, it shows apparently that mixed diet is worse than milk or meat, while it gives milk very little superiority over meat, of course from the point of view of loss of albumen only, which is by no means the most important clinical feature of Bright's disease.

The Influence of the Vagus on the Secretion of Urine.—J. B. Masius (Ext. des Bull. de l'Acad. Roy. de Belgique, 1888, No. 3) has confirmed the observation of Arthaud and Bulti that strong electrical stimulation of the peripheral end of the cut vagus causes diminution of the secretion of urine, which contains albumen, blood corpuscles, and epithelial cells, and he has extended it so as to show that the left vagus acts in the same way. He has also discovered that after the injection of atropin, which paralyzes the cardio-inhibitory and vaso-constrictor fibres, no change is produced, so that the alteration in the urinary secretion is due to the contraction of the renal arterioles. It is noteworthy that in a case of nitro-glycerine poisoning recorded last year (J. Noer, Therap. Gazette, 1887, p. 459) the patient, who was being treated for asthma, had scanty bloody urine from the opposite condition, namely, paralytic distension of the renal arterioles.

Acute Nephritis after Whooping Cough.—Scheltern (Weekbl. van het Nederl. Tijdschr. voor Geneesk., 1888, p. 166) has recorded a case of acute nephritis occurring after whooping cough in a child aged two years, who had never had diphtheria, scarlatina, measles, or smallpox. In not one of six other cases treated at the same time could albumen ever be found.

Mental Affections in Chronic Bright's Disease.—Dr. William Osler (Medical News, Phila., Nov. 19th, 1887) has

related three cases of mental derangement associated with or dependent upon chronic Bright's disease. (1) Was a case of acute mania in a man aged 42, who subsequently became comatose and died. (2) Was a case presenting all the clinical signs of "chronic interstitial nephritis" on admission; two nights later he got out of bed, in the absence of the nurse, and jumped out of the window. It was then found that previous to admission he had been violent, and thought his wife and others were persecuting him. (3) Was a case of chronic Bright's disease, in which the patient suspected his wife and others of designs on his life, and could be with difficulty persuaded to take food; he also thought people were persecuting him. He subsequently improved and his mind cleared.

Peppermint Water in Pruritus Pudendi.—Pruritus of the genitals is sometimes a most formidable and distressing symptom of diabetes in females. Dr. Amand Routh (Brit. Med. Journal, 1888, Vol. I., p. 793), recommends where there is no eczema or abrasion the use of peppermint water made by putting a teaspoonful of borax into a pint bottle of hot water and adding to it five drops of oleum menthæ piperitæ and shaking well, the parts affected to be freely bathed with a soft sponge. Where rawness or eczema is present he recommends olive oil with five grains of iodoform to the ounce.

Diabetes in an Infant.—Dr. Dale (Medical News, Phila., Dec. 10, 1887), has recorded a case of acute and fatal diabetes in a female child aged twenty-one months, attributed to severe falls on the back of the head six months previously.

A Test for Saccharin.—As this drug is largely used in the management of diabetes the following test, recommended by C. Schmidt (Rep. Annal. Chem. 1887, p. 438), may be worth recording. Shake 100 cc. of the strongly acidulated fluid to be examined with 50 cc. of a mixture of ether and petroleum ether in equal parts; repeat this three times, and after separation, filter. Heat the products after the addition of soda lye almost to dryness, and the residue heat in a flat dish at a temp. of 250° C. and then dissolve in water. Supersaturate the solution

with sulphuric acid, filter it and remove the salicylic acid which may be formed by ether. Evaporate this, dissolve in water, and test with perchloride of iron, when, if saccharin has been present, the well-known violet red colour will appear. As this test depends upon the formation of salicylic acid it is obviously inapplicable where salicylic acid is or may be present.

A New Test for Sugar in the Urine.—(Bull. Gén. de Thérap., Jan. 15, 1888) Marson recommends boiling the urine with pure ferrous sulphate and caustic potash when a dark green precipitate forms if sugar be present, and the supernatant liquid is reddish brown or black.

Antipyrin in Diabetes.—Among the other properties of this new drug Michard (Rev. Gén. de Clin. et de Thérap., May 24, 1887) has found it beneficial in diabetes in doses of half a drachm to a drachm and a half daily.

The Pathology of Diabetes.—J. Seegen (Zeitschr. f. Klin. Med. XIII., p. 267) was formerly a follower of Pavy but has changed his opinion, owing to recently discovered physiological facts. He now holds: 1, That sugar formation is a normal function of the liver. The quantity formed by the liver is very considerable, for a man weighing 80 kilogrammes, more than 1000 grammes in twenty-four hours. The sugar is decomposed in the body. It is formed from albumen and fat, while glycogen is formed from carbo-hydrates. Experiments show that the *post mortem* formation of sugar is not attended by diminution of the glycogen in the liver, while in starved dogs fed with fat only the blood of the hepatic vein contains more sugar than that of the portal vein. From his observations on diabetes he is forced to conclude that there is no necessary relation between increased glycæmia and glycosuria. He distinguishes two types of disease which correspond to the slighter and more severe clinical forms. The first, in which the glycosuria depends on the ingestion of carbo-hydrates, is ascribed by Seegen to a disease of the liver cells, in consequence of which they are unable to convert the carbo-hydrates in normal fashion. In the second he recognises a pathological alteration of cell life throughout the

organism, by virtue of which a greater or less part of these elements have lost the capacity of destroying the sugar brought to them by the blood.

In opposition to these views Girard working under Schiff (Arch. f. d. ges. Physiol., XLI., p. 294) finds that the liver *post mortem* converts a great part of its glycogen into sugar, and that if by disease the liver is freed from glycogen it forms no sugar, though the liver still possesses the power of converting peptone into sugar.

A New Remedy for Diabetes.—Quanjer (Weekbl. v. h. Nederl. Tijdschr. voor Geneesk., 1888, I., p. 251) recommends the use of the bark of *syzygium jambolana* in diabetes. He heard accidentally of its use in a case of diabetes, and employed it himself with very striking results on a diabetic patient.

R. Infus. Cort. Syzyg. Jambol. 30,0 to 300,0.
To be used in two days.

(This is a 10 % infusion, and the quantity, about 10 ounces, is to be taken in two days.)

Paroxysmal Hæmoglobinuria.—G. Kobler and F. Obermayer (Ztschr. f. Klin. Med. xiii., part 2) produced, by artificial means (cold foot-bath and subsequent going out of doors), two attacks in a man, aged 49, the subject of this affection. Estimation of the hæmoglobin showed 90 per cent. before the attack, 85 to 90 per cent. during the attack, and 80 per cent. the next day. Enumeration of the red corpuscles showed 3,560,000 in the morning before the attack, 3,090,000 immediately before the attack, 2,890,000 during the attack, and 3,810,000 the next day. The incongruity between the amount of hæmoglobin and the number of corpuscles on the day following the attack may be explained by supposing that while the loss of red corpuscles is very rapidly made good, the newly formed elements are deficient in colouring material. The urine was strongly acid during the attack; its specific gravity was low; while the total nitrogen and phosphoric acid was diminished. In spite of the high temperature (39.6 C.) the urine did not present the character of febrile urine, and in

spite of the destruction of red blood corpuscles, their salts in the urine were not only not increased but were actually diminished.

Micro-organisms in the Urine.—F. Schweiger (Virchow's Arch. CX., p. 255) found that organisms injected into the renal artery soon appeared in the urine, and conversely when injected into the pelvis of the kidney could be found by cultivation in the blood. He attempted to determine where the passage takes place, but was unable to detect any *in transitu*, but, in opposition to Heidenhain's well-known observations, he found colouring matter (sulphuret of antimony) in the glomeruli generally between the epithelium of the glomerulus and the capsule. With reference to Wyssokowitsch's statement that bacilli do not pass through a healthy kidney, he says the necessary lesion would be so small that the point cannot be settled, but it is in favour of this view that a certain time always has to elapse before the passage takes place.

Lustgarten and Mannaberg (Vierteljahrsschr f. Dermat. und Syph., 1887, p. 905) examining the urethral mucus from eight healthy persons found it to contain ten different kinds of bacteria (four bacilli and six cocci). Of these ten there were two especially notable, one a bacillus showing the colour reactions of the tubercle bacillus, the other described as pseudo-gonococcus, differing in no respect from the gonococcus. It follows that it is necessary to be cautious in diagnosing from microscopical appearances alone either tubercle bacilli or gonococci in the urine. They found that it was necessary to take the precaution of drawing off the urine by the catheter to obtain a secretion which on cultivation is free from organisms. In three cases of acute Bright's disease they found in freshly obtained urine, numerous streptococci, which disappeared on the decline of the disease. They did not succeed in obtaining a pure culture of these.

MEDICAL PATHOLOGY.

BY GEORGE F. CROOKE, M.D.,
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Sewer-Gas Poisoning: A Cause of Albuminuria.—Brit. Med. Jour., March 3rd and July 14th.—In the above contributions Dr. George Johnson earnestly directs attention to a cause of albuminuria that seems to have been hitherto but little suspected, and so almost to have escaped notice entirely. He records, from personal observation, no less than five cases where exposure to sewer-gas emanations appears to have been the only discoverable cause of the symptoms. Two of them terminated fatally; one after six months' and the other after two years' illness; but both with all the clinical evidences of disorganised kidneys—the result of more or less continuous exposure to sewer-gas poisoning for a period corresponding to the duration of the illness. The papers also afford interesting examples of variability in the idiosyncrasy of a number of persons exposed to the same danger. In the five cases quoted the kidneys appear to have borne the brunt of the attack; in others the gastro-intestinal tract suffered, for the patients exhibited symptoms of diarrhoea and dysentery; others, again, escaped with impunity. The rapid and progressive disorganisation of the kidneys in the fatal cases deserves serious notice, for it is a lamentable contrast to the apparently complete recovery of those where the cause was discovered early and so removed.

In another case that came under Dr. Johnson's care many years ago the patient, immediately after opening up a drain that had been blocked for some time, was seized with an acute and virulent attack of nephritis that went on rapidly to a fatal termination. It is also worthy of remark that some of his patients suffered from intermittent attacks of sore throat with pyrexia.

The pathology of the nephritis corresponds in nearly all respects with that of the nephritis complicating the specific febrile diseases; *e.g.*, diphtheria, enteric, typhus, &c., and is to

be referred to the irritating effects of the poison upon the kidneys, which make every effort to eliminate it from the system.

The perusal of Dr. Johnson's articles will put the general practitioner on the *qui vive* in similar cases, where the cause of the albuminuria requires to be cleared up.

Aneurism of the Cerebral Arteries of Syphilitic Origin.—“*Annales de la Dermatologie et Syphilographie.*”—Spillmann describes two cases of aneurism of the cerebral arteries terminating fatally by rupture and cerebral hæmorrhage. In the one case the aneurism was situated on the basilar artery, and the patient, aged twenty-seven, died eleven months after the primary infection; in the second case, the aneurism involved the circle of Willis and the patient, aged twenty-one years, had contracted syphilis eight months prior to his death. Histological examination of the wall of the aneurism disclosed the following changes: the adventitia was the seat of a dense small celled infiltration, the intermediate layer, corresponding to the muscularis, was, comparatively speaking, only slightly affected, while the intima was, in places, three times its normal thickness and composed of a richly nucleated fibrous tissue, that nowhere exhibited evidences of degenerative or fatty changes, such as characterise a non-specific endarteritis (atheroma). The aneurisms do not however necessarily rupture, for the cerebral arteries are sometimes found to be converted into fibrous cords with the lumen either extremely contracted, or else entirely obliterated; and hence the dilatation of the aneurism is arrested. In addition to his own cases, Spillmann has collected from literary records accounts of fifteen others in syphilitics, where death was caused by the rupture of the aneurisms, and he summarises the following conclusions: (1) Aneurisms of the cerebral arteries of syphilitic origin are not so rare as is generally supposed. (2) The basilar artery and the arteries in the Sylvian fissures are their favourite sites. (3) Their termination is usually in rupture, with symptoms of meningeal hæmorrhage. (4) They develop mostly in the later stages, more rarely some months after the primary infection. (5) In syphilis imperfectly treated, or allowed to run its course

untreated, the cerebral arteries are more liable to become affected. (6) All cases of syphilis, presenting even slight cerebral symptoms, demand prompt and energetic treatment.

Amyloid disease of the Liver; do the liver cells become infiltrated with the amyloid material?—In a compilation dedicated to the memory of E. Wagner by his pupils, is an essay by Prof. Birch-Hirschfeld of Leipsic, in which he sets himself the task of settling this “quæstio vexata.” He has devised an improved method of double staining by the anilin dyes, Bismarck brown and Gentian violet, taking care to stain first with the brown and afterwards with the violet. In this way the nuclei of the liver cells become somewhat deeply tinted, while the periplast or protoplasm is stained of a lighter brown tint, but quite sufficiently to sharply demarcate it from the red rose colour of the infiltrated amyloid material. B. H. upholds vigorously Wagner’s original view, that the process affects not the liver cells, but the walls of the intercellular capillaries, or to put it more exactly, it is localized to the space between the cell border and the capillary wall, so that in early degrees of the affection, the capillaries appear ensheathed, as it were, with the amyloid substance. Moreover, in a series of observations in all stages of the disease he was unable to convince himself in any instance of the infiltration of the liver cells themselves with amyloid material. The changes they undergo relate chiefly to their form and size; they suffer pressure atrophy from the progressive swelling of the intercellular amyloid infiltration. He thus stands opposed to the views of Cornil and Böttcher, who, he believes, have based the results of their investigations either on imperfect technical methods, or even on errors of interpretation. [B. H. thinks they have mistaken amyloid masses *adhering to surrounding atrophic liver cells* as being *included* within the cells themselves; at the same time he admits that, without the help of very thin sections and successful staining, confusion is apt to arise as to the exact relation of the masses of amyloid substance to the liver cells.] The earliest deposition takes place in the tunica media of the small hepatic arteries running

in Glisson's capsule, without however at this period necessarily affecting the individual muscle cells, then the subendothelial connective tissue layer of the intima becomes infiltrated so as to define quite sharply the outlines of the lumen. In early stages of the affection of the capillaries within the lobules, he failed to observe any regularity in its distribution; it was quite erratic in its selection in all three zones of the lobule. B. H. concludes with some brief remarks upon the intimate nature of the amyloid infiltration. He is inclined to regard the process as an infiltration of the tissues with a *coagulum*, which is either separated directly from the blood, or what seems more probable, is formed from the *plasma* continually bathing the tissues by the union with *it* of a ferment-like substance that is derived from the blood itself.

A case of Nephritis of twenty years' duration, following scarlatina and terminating in small white contracted kidney, is reported by Aufrecht in the *Deutsches Archiv. für klin. Med.*, Bd. xlii., 1888.—The patient suffered from scarlatina when nine years old, and six months later from anasarca and albuminuria, which eventually passed off. Nevertheless, for no less than twenty years from this time he exhibited, but with few intermissions, albuminuria. Whenever he caught a chill the urine was not only albuminous but also contained blood and casts. For five years he suffered from a headache resembling migraine that came on usually after dinner, and was only controlled by regulating his diet. Curious to relate the nephritis appears to have been quiescent during his boyhood, for it had no appreciable baneful influence on his development or school career. He attended school, took part in various forms of bodily exercise, and even passed the usual examinations without difficulty. It was during the last two years of his life that the effects of the kidney lesion made themselves most felt, for since 1886 he showed symptoms of a decided uræmic nature, viz., headache and vomiting. The following are briefly the main clinical facts of the case during the year 1887, in which a fatal termination took place:—January: he was so ill that he was obliged to take

to bed; suffered from frequent vomiting and headache. General nutrition still good; no hypertrophy of the heart to be made out, pulse tension not particularly high; urine not excessive in amount, clear, but very albuminous.—End of March: uræmic convulsions and coma lasting six days; retinitis.—April: transitory improvement.—May: intense nausea, dyspepsia, left-sided hypertrophy of the heart now unmistakable; another attack of convulsions and coma.—June: continuous nausea and headache, transitory œdema of face, neck, and arms.—July: parotitis left side; death on the 9th, *the patient having become rapidly and extremely emaciated during the last months of his illness.* At the necropsy considerable hypertrophy of the left ventricle was found; the kidneys were atrophied and contracted and coarsely granular, of a white colour but variegated by some degree of hyperæmia.

As Aufrecht remarks, such authenticated* examples of transition from an acute nephritis to the small white kidney are rare. As is well known, Aufrecht recognises three forms of nephritis: (1) Parenchymatous; (2) amyloid kidney; (3) glomerulonephritis, each of which may go on to the contracted granular form; the parenchymatous, when it becomes chronic, passes into the small white; such an event however is of rare occurrence, because recovery is the general rule.

* See a similar case mentioned in Fagge's Medicine.

HYGIENE.

BY A. BOSTOCK HILL, M.D., D.P.H. CAMB.

BIRMINGHAM.

Vital Statistics for first half of 1888.

1888 (1st half-year.)

Birth- rate.	Death- rate.	Zymotic death-rate.	Deaths from						
			Smallpox.	Mea.	Sc. F.	Diph.	Wh. C.	Fev.	Dia.
31'1	18'49	1'7	0	113	20	27	115	38	61

1887 (1st half-year.)

31.9	19'29	1'8	1	37	14	30	230	30	62
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It will be seen that the death-rate, both from all causes and from zymotic diseases, has been lower than in the first half of 1887. No previous half-year in Dr. Hill's records has had, in fact, so low a total death-rate as the one just ended. The same remark, in fact, applies to the birth-rate, which continues to fall.

The Sheffield Water Supply and Lead Poisoning.—Mr. Allen, Public Analyst for Sheffield, has recently contributed to the Sanitary Record a paper on the above subject. In the summer of 1885 a medical man in Sheffield called the attention of Dr. Sinclair White, Medical Officer of Health, to certain cases of undoubted lead poisoning of which the origin was obscure. Upwards of 300 samples of the Company's water were submitted to Mr. Allen for analysis.

The investigation showed that, at the time experiments were made, the water derived from the Agden and Skines reservoirs and distributed to the low-lying parts of the town by means of the Godfrey Dam had practically no action on lead pipes, the water drawn from ordinary house taps containing no appreciable quantity of lead. On the other hand, in every instance in which the water was drawn from taps in houses supplied with the Redmires water, distributed to the higher districts of the town by means of the Hadfield Reservoir, a very notable quantity of lead was present. Meanwhile, scores of cases of undoubted lead poisoning occurred which were not traceable to

the occupation of the persons affected. On the other hand, every one of these cases occurred in houses supplied with high-level water, and analysis always showed the tap-water to be seriously contaminated with lead.

Latterly, the number of cases has increased alarmingly. The great majority have occurred in the parts of the town supplied with the Redmires water. The proportion of lead in the water derived from Redmires has recently been found to be from one-half to one grain per gallon. It sometimes, however, reaches one and a-quarter grains per gallon, and occasionally exceeds even this proportion. On the other hand, the samples of low-level water rarely contain more than traces of lead.

The question has arisen why there should have been recently the marked tendency on the part of the Sheffield water to act on lead. It has been suggested that its cause was to be found in the water containing an acid, which was then, and is now, uncertain, but which it is highly probable is of vegetable origin, and arises from the oxidation of the peat on the moors from which the water is derived. The hot and dry summer would probably assist the oxidation, and when the autumn rains came the acid products would be dissolved and pass into the reservoir. The comparatively small quantity of rain which has fallen during the past six months has prevented the dilution of the acid to the usual extent. As a consequence the water running from the Redmires Reservoirs has latterly contained free acid of some sort equivalent to 0.6 grains of sulphuric acid per gallon, while at the same time the hardness and proportionate lime is unusually small.

As to the marked difference in the tendency of the high and low level supplies to act on the lead, the only explanations are to be found in the fact that the latter supply is in part obtained from a reservoir, the water in which has been a long time in storage, and in the circumstance that the low level supply passes through a brick culvert two miles long, the mortar of which may not improbably effect the neutralisation of the free acid.

Disinfection of Germs on Walls.—According to a paper

contributed by Dr. J. Niven to the Medical News for February, after numerous experiments it was found that no method tried was so successful as rubbing the walls with bread, it being found that the germs adhered to the bread so firmly that, on cultivating them, they were found to grow from it, and did not become readily detached. Disinfecting by means of the spray, washing with carbolic acid solution or solution of corrosive sublimate gave nothing like so good a result. The plan of stripping paper from walls is shown to be very bad, as it only throws the germs about far and wide.

Diphtheria Spread by Cats.—In a report on the recent sustained prevalence of diphtheria in Enfield, Dr. Bruce Low, of the Medical Department of the Local Government Board, incidentally states that during the continuance of the epidemic cats were found to suffer in considerable numbers from illness. Though there were no known cases of diphtheria occurring in the practice of the veterinary surgeons at Enfield, yet they found many cases of influenza at this time among animals. The following is an illustration of the possible connection between diphtheria in children and in cats. A cat was seen to lick the vomit on the floor from a boy who was ill with what turned out ultimately to be fatal diphtheria. In a few days the animal was noticed to be ill. During the early part of its illness the cat was let out into the back yard as usual. A few days later the cat of a neighbour was noticed to be ill. This second animal was the pet and play-fellow of four little girls, who nursed it with great care. They all developed diphtheria, their mother being convinced they caught it from the cat; and indeed no other known source of contact with infection could be discovered. This subject has also been brought forward in an official report, also made to the Local Government Board by Dr. George Turner. In January, 1886, Dr. Turner was called to investigate an epidemic of diphtheria at Brent Pelham, Herts. He found that in the cottage in which the first cases occurred a kitten had previously suffered from a throat affection, which was attended by swelling of the neck, foul discharge

from the nostrils, and running at the eyes. Other cats at Brent Pelham were found to have suffered in a like way. Similar disease was noticed amongst the cats at Aldershot, in Hants, at Farnham and Yateley, and at Petersfield in Sussex. In the latter town the evidence was very clear, not that the animal had communicated the disease to certain children, but that it had been infected by them. At Moulton, Suffolk, some children were ill of diphtheria, and were, by the direction of the medical man, confined to the upper rooms of their cottage, that the other inmates might escape. No food which had been offered to the sick children was set before the others, the mother always giving it to the cat. The animal subsequently suffered from diphtheritic symptoms.

Disinfection of Books in the Sheffield Free Library.—It appears that a new disinfecting apparatus is now in full operation at the Central Free Library in Sheffield. In this invention the best disinfectant known is employed in combination with heat at such a temperature as not to damage the books. The principle upon which the disinfection is based is the vaporisation of carbolic acid by heat—the carbolic acid being thus made more potent and active. The heat used is 150 to 200 degrees Fahrenheit, and the books are subjected to this in conjunction with carbolic fumes for a quarter of an hour. The books have, upon examination by experts, been declared to be uninjured in any way. The books are sweet, look clean, and are said to be in every way improved.

Diphtheria.—This disease appears to be on the increase in many parts of the country. In London, last year, the deaths from this cause were 180 in excess of the decennial average, while in each of the last six years the mortality from this cause has been higher than in any year since 1864.

At the last meeting of the Managers of the Metropolitan Asylums District the question whether the Board Hospitals should not be available for diphtheria cases was again brought forward.

The Medical Wisdom of a Local Board.—The Local Board

of Gorton have requested their Medical Officer of Health to exclude from his calculations of deaths from zymotic diseases those caused by measles, whooping cough and croup.

The Pan System in Birmingham.—The Health Committee of this Borough have decided not to further extend this system, but, where practicable, to replace the old fashioned privies by water-closets. Three hundred and seventy-three closets on the plan recommended by Dr. Hill in his annual report for 1886 were introduced during 1887.

The Closure of Polluted Wells.—During the past half-year, a case has occurred in Birmingham, where the Magistrates refused to order the closure of a polluted well, because the Public Analyst was unable to say that the water was *injurious* to the health of the people using it. He stated that it was undoubtedly dangerous and might become injurious at any moment. The question of injury to health is not a matter of opinion, but one of fact, and can only be effectively proved by medical evidence after disease has supervened, so that if the reading of the Act by the Birmingham bench be correct, in future, it will be impossible to prevent the use of sewage polluted water unless ill-health has previously been produced by it. It is satisfactory to note that the matter has been taken up by the Societies of Medical Officers of Health and Public Analysts, with the view of altering (if necessary) the word *injurious* to dangerous, the meaning evidently intended.

Local News.

LOCAL COMMISSION.—The London Gazette contains the following:—1st Worcester Volunteer Artillery, Lieutenant J. T. Thomas to be Surgeon; 1st Vol. Bat. Royal Warwickshire Regt., Jordan Lloyd, F.R.C.S., to be Acting Surgeon.

SURGEON-GENERAL SIR WILLIAM MOORE, K.C.I.E., who appears in the London Gazette of the 14th inst. as having been

appointed Honorary Physician to the Queen, is a son of the late Mr. Edward Moore, J.P., of Halesowen. Sir William Moore was a student at Queen's College in this town, and some years Resident Surgeon at Queen's Hospital, afterwards joining the Indian Army, in which he remained many years. For his services in the East, besides the above distinction, he has also received the honour of knighthood in the Order of the Indian Empire.

MR. BASIL W. HOUSMAN, M.R.C.S., L.R.C.P., has been appointed House Physician to the Queen's Hospital. Mr. Housman obtained the Sands Cox prize at Queen's College.

THE first examination for the prize in memory of the late Dr. Russell, Senior Physician of the General Hospital, was held on July 21st, at Queen's College. The subject of the examination was "Nervous Diseases," and Dr. Wade acted as examiner.

THE first examination for the prize in Pathology given by the Staff of the General Hospital resulted in Messrs. Crump and Sadler being adjudged of equal merit. Prof. Barling and Dr. Crooke were the examiners.

New Books, etc., Received.

Catalogue of Lewis's Medical and Scientific Library. Revised to Midsummer, 1887. London: Lewis. 1888.

Diseases of the Skin. By H. RADCLIFFE CROCKER, M.D. Lond. With 76 Illustrations. London: Lewis. 1888.

Nitrous Oxide Anæsthesia. By J. F. W. SILK, M.D. London: Churchills. 1888.

A Dialogue against the Fever Pestilence. By WILLIAM BULLEIN. From the Edition of 1578. Edited by Mark W. Bullen and A. H. Bullen. Part I.—The Text. London: Published for the Early English Text Society by N. Trübner and Co. 1888.

The Anatomie of the Bodie of Man. By THOMAS VICARY, Serjeant of the Surgeons to Henry VIII., Queen Mary, Edward VI., and Queen Elizabeth: Master of the Barber-Surgeons' Company: and chief Surgeon to St. Bartholomew's Hospital 1548-62. Part I. Edited by F. J. Furnivall, M.A., and Percy Furnivall. London: Published for the Early English Text Society by N. Trübner and Co. 1888.

THE
BIRMINGHAM MEDICAL REVIEW.

OCTOBER, 1888.

ORIGINAL COMMUNICATIONS.

PRACTICAL OBSERVATIONS ON CHRONIC
HEART DISEASE.*

BY ALFRED H. CARTER, M.D. LOND., M.R.C.P.,
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ENORMOUS advance has been made in recent years in our knowledge of the physiology and pathology of the heart; though we are still a long way off finality. There is however far too much routine and rule-of-thumb with regard to the management of cardiac disease. With too many there are but three resources—rest, heart-tonics, and stimulants; and when these fail—well, so much the worse for the patient. And even amongst those who proceed on more thoughtful and enlightened lines, there is a disposition to take too narrow a view of such cases, and thus to lose sight of certain broad relations, the appreciation of which is very necessary to intelligent management.

The narrowness of which I complain is, I think, partly due to the disproportionate attention which is devoted in our medical schools to physical examination and minute stethoscopic analysis of cardiac sounds to the exclusion of important associated clinical features. Thus a student is apt to think that a diagnosis of a case of valvular disease has been completed when a definite

* Based upon a clinical lecture delivered at the Queen's Hospital, Feb. 1888.

conclusion has been formed touching the existence of this or that valvular murmur, and when dilatation or hypertrophy has been detected; whereas, in actual fact, the first step towards diagnosis—and by no means the most important—has alone been taken. The exact nature and extent of the heart's incapacity for its work, the state of the heart-walls, the amount of interference with the general circulation, the functional disturbance of other organs, the presence or absence of secondary structural changes in distant parts, and the general reserve-power of the patient together with his habits of life and special morbid tendencies still stand over for attentive consideration; and, until each has been specifically estimated, a diagnosis, in the proper sense of the word, cannot be made.

Over-refinement in the morbid anatomy of a case has also some influence of the same kind. So many varieties of structural change in the cardiac substance have now been differentiated that, in the midst of so much difference, we are apt to forget the great similarity of their clinical manifestations. Apart from the inherent difficulty of distinguishing such structural changes with certainty during life, it must be borne in mind that when they have once occurred they are for the most part quite beyond the range of direct treatment, and that the real practical interest of cardiac disease—and in fact of internal disease of all kinds—as a condition to be met and to be combated, belongs to a period antecedent to structural change. I hope to be acquitted of any absurd intention to discount the value of pathology as a basis and preparation for rational treatment; I am only making a protest against pathological pedantry, which I regard as an obstacle rather than an aid to the practical physician.

In order to compress what I have to say within a small compass, I will take my points seriatim without any attempt at descriptive continuity.

First of all I would draw attention to the close similarity which characterises the beginning of trouble in nearly all forms of chronic cardiac disease. Whether it depends on a valvular

defect, or some functional or structural impairment of the heart-wall, the starting-point of trouble is always the same in the main—namely, an inability on the part of the heart to completely empty one or more of its chambers during systole. Consider what this implies. It is clear that if any cavity of the heart be incompletely emptied during systole, it must necessarily be overfull during the subsequent diastole, in direct proportion to the amount of blood left behind. But if so, it follows that during diastole—that is to say, at a time when the cardiac muscle is relaxed—the walls of the affected chamber are subject to a distensile strain. In accordance with a pathological law, any strain brought to bear upon a muscle in a state of relaxation, if severe, or of long duration, or frequently repeated, leads to lengthening of the muscular fibres, and—in the case of a sacular muscular organ like the heart—to dilatation.

A parenthetic allusion to the pathogeny of cardiac hypertrophy may perhaps be permitted here. It contrasts with that of dilatation, in being the outcome of strain brought to bear upon muscle *in action*. These modes of origin of dilatation and hypertrophy are well illustrated in the behaviour of the left ventricle, consequent upon aortic regurgitation. On account of the aortic reflex, the ventricle becomes over-filled and distended during diastole. Accordingly dilatation is invariably the first result; it has nothing necessarily to do with defective vitality of the muscular substance. Several writers—Fothergill, for instance—attribute the early occurrence and marked extent of the dilatation in aortic regurgitation, to malnutrition of the ventricular wall from imperfect filling of the coronary arteries, which, according to Brücke's view, are filled by the recoil of the aortic column of blood upon the resistant semi-lunar valves. It has, however, now been proved beyond all shadow of doubt that the coronary arteries receive their blood during systole, under entirely similar circumstances to all other arteries. When the regurgitation is free, dilatation develops very rapidly, and I have seen it reach a very high grade in the course of three weeks, after rupture of an aortic valve segment, where there

was not the slightest reason to suppose the heart wall otherwise than perfectly sound. But to return : Given dilatation, the left ventricle has then a larger bulk of blood to propel ; or, in other words, it is subjected to increased strain during systole, and accordingly hypertrophy quickly follows, provided the general conditions of nutrition are equal to the occasion.

Dilatation consequent on incomplete emptying of the heart is thus the pathological starting-point of cardiac disorders. The symptomatic expression of this condition is palpitation. The proximate cause of palpitation consists of a disturbance in cardiac innervation ; and when it occurs in this connection, it invariably represents a struggle on the part of the heart to do work for which it is unequal. Palpitation is in no sense an over-action of the heart, but disturbed action from inability successfully to contend with its work. If the difficulty be slight it may only be felt when there is some extra demand upon the circulation, as during exertion ; if, on the other hand, it is severe, it will occur independently of exertion. Moreover, if, as most frequently happens, the overfulness and consequent dilatation affect the left side of the heart, the pulmonary vessels necessarily share in the overfulness ; and, partly as the result of the encroachment upon the vesicular cavities of the lung by engorgement of the pulmonary capillaries, and partly by the retardation of the pulmonary circulation, dyspnoea is generally complained of at the same time. Of course we all know that these initial symptoms are, as a rule, entirely corrected and overcome in the first instance by compensating hypertrophy. This equilibrium is nevertheless for the most part of an unstable kind, and sooner or later—as we say—it breaks down, and the conditions, which I have already described, return.

This now brings me to the circumstances under which failure of compensation occurs. Text-books are generally silent on this most important subject, and more often pass it over with such a remark as “after a time compensation fails :” or if they attempt any explanation, the failure is vaguely attributed to cardiac degeneration, without any very apparent reason why

degeneration should occur. It is almost certain that, at least in a considerable proportion of cases, there is little or no degeneration at the time "failure of compensation" first occurs, and it seems to me, that to deal with the subject of "failure" in this superficial way not only leads to our missing the rationale of "failure," but blinds us also to some of the most important guides to prognosis and satisfactory treatment. This question has long occupied much of my attention, and it was with a feeling of extreme pleasure that I read an admirable paper recently published by my friend Dr. Mitchell Bruce in the *Practitioner*, where the whole matter was clearly and fully set forth.

From what has gone before, we see that the meaning of a break-down or failure in compensation amounts to this:—something or other has occurred to a patient with valvular disease who may perhaps have been entirely free from symptoms for years, by reason of which his heart has become unable properly to empty its cavities. Now if we carefully enquire into and analyse the circumstances immediately preceding this unfortunate occurrence we shall find that they vary widely in different cases; and, as a rule, it is not difficult to isolate those which are mainly responsible for the trouble in question. I cannot do better than make use of Dr. Bruce's classification of the chief causes of "failure;" but, as I have not his paper by me at this moment, and am obliged to write from memory, I cannot vouch for literal correctness.

The chief causes which he enumerates are the following:—
(1) Overwork. This is the most common of all, particularly in hospital practice and amongst the poor. The heart is systematically called upon to encounter work for which it is unequal. It becomes incompletely emptied on contraction, and dilatation sets in with all its attendant manifestations.
(2) Malnutrition—from defect in the quality of food or deficiency in its quantity, bad sanitation, close confinement within doors and the like; or, again, malnutrition may result from enforced idleness especially if associated with over-eating and

drinking. The heart thus becomes infiltrated with fat, and unequal to its work. (3) Nervous exhaustion—from worry, anxiety, recurring strong excitement, or the strain of grave responsibilities. (4) Intercurrent disease of any kind—especially disease of the lung and recurrence of articular rheumatism. These necessarily tend to exhaust the vital powers, and impose fresh difficulties on the cardiac circulation. (5) Toxic disorders—from alcohol, tea, coffee, tobacco, lead or mercury in excess (especially the first) constitute a frequent and powerful indirect cause of “failure.” (6) Some increase or extension of the valvular affection. (7) Circumstances special to certain periods of life—such as puberty, too rapid growth, pregnancy, persistent lactation, the menopause, and so on. (8) Lastly, in the ordinary course of senile decay, there comes a time in which the heart gradually becomes unequal to its work. The general principle conveyed by this classification of Dr. Bruce’s is one of the very first importance, namely, the possibility in the vast majority of cases of finding out some special circumstance, either belonging to the patient himself or his surroundings, as an explanation of “cardiac failure.” Its bearing upon prognosis and treatment is fairly obvious, and I shall return to the matter further on.

(To be continued.)

CASE OF GENERAL TUBERCULOSIS AND TUBERCULAR TUMOUR IN THE LEFT LOBE OF THE CEREBELLUM.

BY ROBERT M. SIMON, M.D.,

ASSISTANT PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

J. Y., æt. 16, needle worker, admitted to General Hospital, Birmingham, July 25th, 1888, died August 2nd, 1888. Patient came up to hospital complaining of headache, staggering gait and weakness, and said he had been ill for ten days. His father and mother are alive, the latter is delicate, he has one

sister alive and in good health, patient and this sister comprising the whole family : no history of phthisis in the family could be obtained. About a year ago he says he had "low fever," but he was in bed and away from his work only ten days : he has never felt strong. Ten days ago he began to suffer from headache which affected the whole of his head, and he then began to feel weak ; four or five days ago he commenced to stagger when walking, and had to give up his work two days ago. Patient is a fairly well nourished lad ; face pale ; seems a little stupid ; lies on his right side curled up in bed but is very restless ; there is a little photophobia ; complains of pain in lumbar region on stooping ; skin hot and dry.

Alimentary System.—Sordes on lips ; tongue moist, coated with fur ; appetite poor ; breath foul, smells like a typhoid patient. Bowels open, no diarrhoea ; abdomen retracted ; there is a little tenderness on pressure in the right iliac fossa, with gurgling. Absolute liver dulness commences above in nipple line at fifth rib, and extends downwards to half-an-inch below costal arch. Spleen cannot be palpated.

Circulatory System.—Heart's apex-beat best felt in fourth interspace one inch internal to nipple line. Area of cardiac dulness commences above at third intercostal space, is not enlarged to right of sternum. A faint systolic bruit is heard in third left intercostal space, not conducted in any particular direction. Pulse 88, regular, fair tension.

Respiratory System.—Nothing abnormal detected in lungs beyond a few rhonchi.

Nervous System.—Patient says his left arm sometimes feels numb for five or ten minutes at a time. There is no loss of sensation. Pupils equal and react to light. He says he sees double, though examination failed to prove this. He is a little deaf, and says he has a little difficulty in swallowing. Patellar reflexes easily obtained. No ankle clonus. Urine 1025 sp. gr., alkaline ; when boiled with acetic acid gives a faint trace of albumen ; under microscope a few leucocytes seen, also bladder epithelium. Evening temperature 101·8°.

July 26th. Very restless; complains of feeling low and miserable, also of headache. Vomited this morning. Right pupil is larger than left. Evening temperature 101.2° , pulse 78.

July 27th. Was very restless until three this morning, since then he has slept, but now, 9 a.m., is restless again. Bowels have not been open since admission; no typhoid spots; foul smell continues; tache cerebrale present; no diplopia now; no obvious deafness. The temperature keeps above 101° F. Pulse in morning 96, evening 108.

July 28th. Had urethran gr. xv. at 11 p.m. last night, and later half that quantity, but only slept about an hour; very restless all night, shouting out; is complaining of some pain in right hypochondrium; ? friction on deep respiration. Temperature keeps high to-night, 102° F., pulse 114.

July 29th. Bad night; very restless and noisy. Had two doses of urethran, but only slept about two hours. Passed his urine in bed during night. Had an enema, which brought away many brown masses of fæces. Evening temperature 101° , pulse rising in frequency—to-night 132.

July 30th. Slept well last night after an opium draught. Passes urine under him, tongue coated, abdomen still retracted, no spots; resents any movement of head. There seems to be some tenderness on left side of spine in cervical region; does not speak when spoken to; appears in pain when pulled up by the arms; systolic bruit heard over aortic area. Temperature above 100° F., pulse less frequent.

July 31st. Is much quieter to-day, passing urine in bed; now lies on his left side; does not talk or shout out; no vomiting, bowels not open, is not swallowing milk well. Temperature this morning 98.4° , evening temperature 100° , pulse 120. A blister was applied to nape of neck, and afterwards dressed with ung. hydrarg. Calomel gr. iij. ordered.

August 1st. Lies on his back, moving his extremities a little. There is great difficulty in deglutition, special senses do not seem impaired, does not talk, urine passed in bed. Evening temperature 100.2° , pulse 140.

August 2nd. Remained in about the same condition till 7 a.m. The difficulty in swallowing increased, so that when milk was put in his mouth it curdled at once, and patient ejected it on his tongue. Has wasted very much; does not speak; no paralysis, although patient only moves a little, and then it is mostly his arms. At 7 a.m. began to have difficulty with respiration. When seen at 8 a.m. was a little cyanosed; respiration almost entirely abdominal; pulse small, frequent. He improved a little with an injection of ether; but gradually respiration became more and more impaired till he died at 2-30 p.m. Before death there seemed to be some twitching of the left eye to the right.

Necropsy—August 3rd. On removing skullcap, lines and streaks of exudation of lymph were seen laterally on both sides extending upwards from the sylvian fissures. There was also very extensive basal meningitis, accompanied with abundant exudation of yellowish gelatinous lymph around optic chiasma and over cerebral peduncles, pons, and medulla. Membranes highly infected, and the seat of an eruption of miliary tubercles: in some of the tubercles, after staining with fuchsin, tubercle bacilli were found. Lateral ventricles dilated, and contained an excess of turbid serum. On slicing cerebellum, a yellow caseating mass was found in the left lobe near inner margin of anterior superior lobe, about the size of a filbert nut. Fresh sections, stained with fuchsin, showed tubercle bacilli amongst the amorphous débris of the caseating portion.

At the apex of the left lung there were some firm yellow caseous masses $\frac{3}{8}$ – $\frac{1}{2}$ inch in diameter, the larger ones caseating: the remainder of lung showed early infiltration with mostly discrete grey translucent miliary tubercle. At the apex of the right lung there was a large cheesy mass surrounded with smaller secondary tubercular infiltrations; the remainder of lung shows early infiltration with grey miliary tubercle. Some of bronchial glands caseous and calcareous.

Heart normal. Spleen, no tubercles found. Kidneys, one or two grey tubercles on the surface and here and there in the

centre. Liver 40 oz.; two small calcareous masses were found imbedded in the left lobe just above the under surface. No other tubercles found with naked eye. There was an eruption of miliary tubercles all over the peritoneum—there had, in addition, been previous peritonitis of some standing, and the exudation had organised into a loose areolar tissue which bound together here and there intestinal coils, and caused adhesion of the liver and spleen to the diaphragm.

Large intestine: Mucous surface superficially though extensively ulcerated in places; the surface of some of these ulcers presented a "seared" appearance, as if intersected with cicatricial bands tending to pucker the gut. Mucous surface of section similarly ulcerated, as also were the cæcum and also cæcal valve; mucous membrane of upper part of ileum being hyperæmic and much ulcerated: there were met with irregular ulcers transverse in direction with hard infiltrated base, but exhibiting puckering, as if the base were cicatrizing: the induration of base was due to infiltration of serous coat corresponding to ulcer with a group of firm fibrous grey tubercles which were often pigmented and nearly a slate grey or black colour.

Remarks.—This case is a remarkable instance of the latency of tubercular disease. The boy's failure of health dated from the attack of low fever a year before his death, but he was able to do his work until ten days before admission, and then gave it up only on account of the headache and rapidly increasing weakness.

It was noticed in the out-patient room that he stood with his legs rather wide apart, and waddled in walking. He had never fallen down or had uncontrollable giddiness. No accurate diagnosis was made at the time of admission, but his aspect and the elevation of temperature suggested the possibility of typhoid. This idea was abandoned immediately he had been thoroughly examined, as, beyond the facts above noted and a little gurgling in the right iliac fossa, there was nothing to support it. Moreover, the retraction of the abdomen negatived the idea, and encouraged the already considered diagnosis of tubercular

meningitis. The rigidity of the neck and retraction of the head suggested a cerebellar tumour. These symptoms have been noted by Gowers and Ross, among other observers, as occurring occasionally in cases of cerebellar tumour; but according to Gowers it is as yet uncertain whether they are due to the irritation of structures in the cerebellum or to pressure on the pons or medulla oblongata. It is probable that the disease began in the chest, and that the acute and fatal symptoms were due to a very recent development of tubercular meningitis.

For the very full and interesting notes of the case and post-mortem I am indebted to the Resident Medical Assistant, Mr. Crump, and to Dr. Crooke, the Pathologist to the General Hospital.

NOTES OF A CASE OF CEREBRAL TUMOUR.

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THE following case of Cerebral Tumour, which occurred in my practice at the Queen's Hospital, proves of interest by reason of the rapid progress of the new growth from the earliest manifestation of symptoms to the fatal issue, and also on account of the large extent of brain substance involved.

W. S. S. (44), a type-setter employed on the staff of the "Belfast Morning News" came to the Queen's Hospital Feb. 14, 1888, complaining of impaired vision, headache, and loss of memory. He was accompanied by his wife, who gave the following history. The patient's father died of rheumatism, his mother of apoplexy, all his uncles (on father's side) have died in fits, one sister is alive now suffering from some head trouble. He was a man of temperate habits, married at the age of 24 years, never contracted syphilis, and has two healthy daughters now grown up. His hair became gray at the age of 25 years. He always enjoyed robust health, never having been confined to bed by illness save for one attack of sore throat. He had been

employed ten hours each night at his work on the newspaper, and was rather pallid, but speaking generally he was a well-nourished and muscular individual.

About four weeks previous to his visit to hospital he experienced at work certain attacks which he described as fainting fits. These were transitory; but immediately afterwards he felt a severe pain in the left frontal and temporal regions. His sight also began to fail him, and images appeared double. Feeling himself incapacitated for work, he consulted Dr. Nelson, the ophthalmic surgeon at the Royal Hospital, Belfast. I am indebted to Dr. Nelson for his kindness in sending me the particulars of the early appearances upon ophthalmoscopic examination. On the 19th January, 1888, there was observed "a suspicion of blurring at the inner margins of both discs. The vessels were normal." On the 27th distinct optic papillitis was recognised in both eyes, and on the 31st a small hæmorrhage was detected in the left fundus between the two ascending vessels. At this time he came to Birmingham, his native place, and on the 14th of February he was again examined by the aid of the ophthalmoscope in my out-patient room at the Queen's Hospital. The right disc exhibited marked swelling, with increased vascularity and complete obscuration of its edge. In the left fundus oculi the disc was much paler and the vessels were diminished in size. The motions of the eyeballs were good; the pupils responded to light and accommodation; sight was defective in both eyes, and I observed that there was considerable peripheral contraction of the field of vision in the left. He complained also of seeing sparks and diplopia. His headache now troubled him less, but he suffered from vertigo, and in staggering he fell to the right side. The patient himself, on being questioned, exhibited obvious defect of intelligence. At his first visit to hospital he could speak rationally enough, except that he was much troubled in recollecting the names of things and past events and circumstances. Subsequently his amnesia, which at first was merely verbal, developed into an absolute word-blindness and word-deafness. I admitted

the patient into hospital on March 7th. I then observed that his superficial reflexes were normal, the patellar tendon reflexes exaggerated, especially on the right side, and ankle clonus was present on the right side. His respiratory, alimentary, and circulatory functions were apparently healthy. He had never vomited. On the 9th the patient became very drowsy, passed his urine and fæces in the bed, and had an attack of twitching in the right side of his face, neck, right arm and leg. His pupils no longer reacted to light. On the 10th the patient, after some severe convulsions, limited to the right side of the body, became comatose. The right hand twitched occasionally, the conjunctival reflex was abolished, the patellar reflex and ankle clonus were absent. On the 13th the patient recovered consciousness, the reflexes returned, and he recognised his friends and was able to answer questions. He took his food well and began steadily to recover ground, when on the 23rd he relapsed into a semi-comatose condition, occasionally grasping at imaginary objects. His urine became albuminous and contained blood-cells and casts, also bile-pigment. In this state he remained until the 30th, when he died after several hours of profound coma.

Autopsy, March 31st, made by Dr. Hogben twenty-four hours after death.—The brain: The vessels of the cortex were engorged; there was also arachnoid thickening and opacity; no sign of tubercle. On opening the left lateral ventricle there was found a large yellowish glue-like tumour arising from the posterior end of the optic thalamus, involving the upper limit of the hippocampus major and the anterior end of the hippocampus minor. It extended upwards through the roof of the ventricle, and downwards to the convolutions of the cerebrum below. Externally it reached to within $\frac{1}{4}$ -in. of the angular and supramarginal convolutions. Towards its external part the tumour was excavated and contained some yellowish fluid; numerous large new vessels were running into the growth. Both ventricles contained a considerable amount of fluid. The tumour was rather firm, and had no distinct capsule. The

kidneys were large, red, and congested ; liver and other organs appeared normal.

The early symptoms of the above case pointed to involvement of the sensory centres, and more especially of the visual apparatus. It is interesting to remark that failure of sight should have been the earliest phenomenon in a case in which there existed a lesion of the optic thalamus and neighbouring parts, as well as of the fibres of the posterior end of the internal capsule, and of the corona radiata proceeding from the angular gyrus. I may say that hemianopia was not observed. The motor phenomena which occurred later in the progress of the case and consisted of convulsion of the right side of the body, pointed to a lesion in or near the left cortical motor area.

I have prepared microscopic sections of the tumour. It is a glioma, and at its periphery it merges gradually into healthy brain tissue. I have also obtained crystals of hæmatoidin from the fluid in the cystic portion of the growth.

A CASE OF GANGRENOUS FEMORAL HERNIA :

WITH REMARKS ON THE TREATMENT OF GANGRENOUS BOWEL
AND OF FÆCAL FISTULA.

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ON April 23rd, 1887, I was asked by my friends Mr. Oakes and Dr. Purslow to see a case of strangulated hernia. The patient, Miss F., aged 45 years, a well-nourished albino, was in her usual health a week before my visit. On the 17th she was taken somewhat suddenly with pain in the belly and vomiting. She noticed also that a swelling in her right groin—which had been present for more than five years, and which had varied in size from time to time—was more painful than usual. Symptoms continued with increasing severity until the 21st, when she sent for her medical attendant. The bowels were slightly moved on the morning of the first day of her illness. On the evening of

the 21st her general symptoms were much better, and on the following morning the skin over the groin-swelling was faintly red and œdematous.

At the time of my visit the abdominal pain was slight and paroxysmal ; vomiting of a yellow brown fluid occurred every ten or twelve hours ; constipation was unrelieved ; the abdomen was moderately distended and tender to pressure ; the tongue was furred, with red edges ; the pulse was fast and small. In the right groin was a diffuse soft swelling, extending along the inner half of and below Poupart's ligament ; the skin was mottled-red and œdematous ; fluctuation was evident, and coarse crackling emphysema could be indistinctly felt on light pressure ; there was no impulse on coughing ; the tension of the swelling was less than that of the abdomen.

Miss F. volunteered the statement that she had been subject to attacks of spasms and biliousness for the past five years ; she had no idea that she was ruptured.

A diagnosis of strangulated femoral hernia with inflammation and probably suppuration about the sac was made, and immediate operation suggested.

Dr. Purslow gave an anæsthetic of two parts of methylated chloroform and one part of methylated ether, a combination I have used in nearly all my operations during the past five or six years, and with the best results. A two-inch oblique incision was made over the position of the neck of the hernia. The tissues were slightly œdematous and were divided until the sac, which appeared as a dirty looking brownish layer, was exposed. This was freely opened ; it contained a small quantity of dirty fluid and was otherwise filled with a greyish ragged-looking unrecognisable mass, which on close examination turned out to be a $3\frac{1}{2}$ inch coil of gangrenous small intestine : there was a strong fæcal odour but no distinct fæcal contents were seen. Before any further step was taken the whole was thoroughly washed with warm water until it was absolutely clean, and then Gimbernat's ligament was freely divided by several notches with a herniotome. A large opening was made into the

gangrenous gut and its edges stitched with thin silver wire firmly to the skin. A large drainage tube was then passed into the bowel and pushed on until fæces escaped through it in enormous quantity. The wound was lightly covered with absorbent wool and all nourishment withheld for twenty-four hours.

The details of the after progress from this operation are unimportant. The wound cleaned in ten or twelve days, and then presented two open intestinal ends, from the inner one of which the whole of the fæces escaped. Nothing passed per rectum. The skin around the fistula was excoriated and painful; it was much irritated by the flow of many ounces of a rich golden yellow fluid (bile chiefly) coming on always about three or four minutes after a meal.

This state of things existed until August 9th, when the éperon was divided by the following means:—Without any anæsthetic the blades of an ordinary nasal polypus forceps were passed—one blade in each channel—their whole length along the spur, and the handles were tied together as tightly as possible so as effectually to crush the tissue which lay in the grasp of the instrument. The particular forceps chosen is known as Lennox Browne's. The blades are $2\frac{3}{8}$ in. long, about $\frac{1}{8}$ in. broad, slightly curved, roughened in their whole length, and come closely together from heel to point when closed. The handles are held together with catch similar to Spencer Wells' artery forceps. Before the blades were introduced they were covered with a single layer of lint, held securely in position by wrapping with fine surgeons' silk thread. To avoid the possibility of nipping a coil of gut between the blades—as is said to have occurred where Dupuytren's enterotome has been used—they were made to nibble their way, little by little, along the spur until they were introduced in their whole length, the blades never being more widely separated than was necessary to allow them to slip along the septum. No pain whatever was felt either during the introduction nor at the time of closure of the instrument. The outlying part of the forceps was secured

to the thigh with rubber plaster, and the fistula was lightly covered with its usual dressing. The patient was fed during the time the instrument was retained with peptonized enemata. About three hours after the forceps were applied, crampy pains and sickness came on for two or three hours, but passed entirely away by next morning. The forceps loosened themselves, and came away on the seventh day, bringing between their blades a narrow strip of greyish white parchment-like tissue $2\frac{3}{8}$ in. in length, which could not be separated into two layers. The spur was felt to have entirely gone, and the finger passed readily as far as its knuckle into a single-barreled cavity. All the egesta still came from the wound, and a pad was firmly bandaged over it for the purpose of diverting the fæcal current from the central into the distal conduit. The patient was not distressed in the slightest by the above procedure, but the intestinal contents continued to escape through the fistula as before, nothing whatever being passed per rectum. On October 10th the fistulous opening was smaller, but another spur had formed and could be felt about one inch from the surface. It was divided again in a precisely similar manner, the blades being introduced in their whole length, and the instrument coming away on the eighth day, bringing in its grasp a piece of crushed tissue. As before, the crampy pains and vomiting came on a few hours after application, but the patient suffered in no other way whatever after this second operation. A firm pad was kept constantly applied over the fistulous opening, and in the first week of November the patient passed from the rectum for the first time, and after much difficulty, a small hard pellet of fæces. Simple enemata were then given regularly, and the passage of fæces from the rectum took place regularly.

On November 16th an attempt was made to close the fistula by paring its edges freely and stitching closely with deep quilled sutures. The operation failed to entirely close the opening, but its calibre was contracted to the size of a crowquill thereby, so that when a pad was firmly secured over it with a spica bandage

there was no escape of fæces whatever, everything being voided by the natural passage. The patient was able to get up and about with comfort if she wore the pad, which she continued to do until April 2nd, when the pinhole fistula had completely healed, and has remained sound and solid ever since. She is now in perfect health and is wearing a light femoral truss, and is able to get about and enjoy life better than for years before the beginning of the above detailed illness.

Remarks.—I am led to publish this case chiefly on account of the successful result of the treatment adopted, because there is a growing tendency (amongst that school of surgeons who regard operation as “the all and the everything”) to deal with gangrenous intestine by more radical and more rapid and certainly more risky methods. I recognise to the full the objection which may be made to the length of time—twelve months—over which my treatment was prolonged; but I would point out that during the whole of this period the patient’s condition never gave us the slightest anxiety, and her only real discomfort was from the irritation of the skin around the wound induced by the escaping intestinal contents.

The diagnosis of gangrenous bowel, anterior to operation, is usually a matter of difficulty; often of impossibility. The amelioration of symptoms at the period of onset of gangrene has often been noted, and was markedly present here. Even at the time of operation Miss F. thought she was better than she had been a few days before. The softness and diffusion of the hernial swelling are points of importance. There is no single sign of strangulation upon which so much reliance can be placed as that of local “*plus* tension.” In any hernia, if the tension of the tumour is in excess of that of the abdomen, communication between their cavities must be obstructed. That is to say, strangulation must be present. The converse of this is almost equally true—softness of a hernia negatives strangulation, except in cases like the above, and then softness ought to suggest the presence of gangrenous bowel. Could we have examined Miss F.’s hernia during the first four days of her illness

we should have found its tension increased. The date of onset of gangrene in a herniated gut is subject to great variations, depending upon size of ring, quantity of bowel, presence of omentum, age of patient, and idiosyncrasy of individual tissues. I have seen it within twenty-four hours, and have failed to find it after almost as many days.

The recognition of gangrene in a coil of bowel lying exposed before us in an open hernia sac is not an easy matter. Few surgical complications are so perplexing as that of determining whether a coil of gut shall be returned into the abdomen or whether it shall be treated where it lies. No judgment can be formed merely from the colour of the coils, and no analogy can be drawn from one's experience of gangrene of the outer surface of the body. The same amount of functional disturbance in the nutrition of an external part—a finger or toe for example—which will necessarily be followed by local death, putrefaction, and sphacelation, may be entirely recovered from in the case of intestine, if the cause of the disturbance is removed and the gut returned into the peritoneal cavity under perfect aseptic conditions. I believe that bowel-coils, which would sphacelate in the external air, can entirely recover themselves in an aseptic belly cavity, and the reasons for this belief are based entirely upon what I have seen in my own and in the practice of others. I have at this present moment under my care, in Queen's Hospital, a middle aged woman into whose abdomen I returned, nearly three weeks ago, a twelve-inch coil of small intestine which was of a dark green colour—far beyond the purple and black stage—and which had a decidedly fæcal smell about it. Several of the hospital residents present at the operation, amongst them qualified men of considerable experience, expressed their astonishment at what was done and were expectant of witnessing shortly the results of my experiment on the post mortem room table. I was prepared, if I found the patient's symptoms aggravated or even unrelieved during the next few days, to proceed at once to laparotomy; such however has not been necessary, the woman having recovered with no

other trouble than what can be accounted for by assuming that the functions of the incarcerated coil were for some time in abeyance. The same amount of disturbance in the vascular system of a finger or a foot would most certainly have been followed by shedding of the part. Why a similar result did not follow in the peritoneal sac I cannot say.

We have much yet to learn of the behaviour of injured tissues when shut up within the interior of our serous cavities. A single instance will suffice to illustrate my meaning :—If I cauterise deeply the skin over the back of my hand so as to produce an eschar, say as large as a crown piece, I find in ten or twelve days' time that the eschar has been thrown off as a stinking slough, and has given place to a large freely suppurating ulcer, which will not cicatrize over for several weeks, and during which time several ounces of pus, in the aggregate, will have been discharged. Now if I cauterise precisely to the same depth and over the same area the stump of an ovarian pedicle, or of a thickened omentum, and return it into the peritoneal cavity, nothing more is seen or heard of it. In both cases tissue is destroyed and repair has to take place. In the one we see a large piece of dead stinking tissue thrown off from the living parts by the granulating and pus-forming process ; in the other how different must the reparative changes conduct themselves. What becomes of the fire-killed tissues? How is the pus, if any is formed, got rid of? Here we have positive evidence, then, of the different behaviour of heat-gangrene on the body's surface and within the body's cavity. And what is true in this case may reasonably be supposed to occur in gangrene from other causes. It follows, therefore, as a corollary that unless a herniated gut has well advanced in the gangrenous process, it is perfectly justifiable to return it.

When an undoubtedly gangrenous coil is lying before us, as in Miss F.'s case, the question arises, What is *best* to be done? Several things *may* be done ; but what is best? On this point authorities differ, some doing as much too much as others do too little. Four procedures, at least, are recommended :—

1. Simply to make a free opening into the gangrenous bowel and leave the constricting agent unmeddled with. The advantages claimed for this method are a minimum of interference and the avoidance of the risk of contaminating the peritoneal cavity by disturbing the structures lying within the neck of the sac. The disadvantages are that the symptom of fæcal obstruction—which is the death-determining factor in most strangulated hernias—is left unrelieved ; and that fæcal fistula follows.

2. First to find the constricting agent, to divide it thoroughly, and then to proceed as in 1. This may be supplemented by anchoring the sloughy intestine to the wound edges, and by passing a large-sized drainage-tube into the proximal distended intestine to let off its contents. The advantages of this method are its comparative safety and the immediate relief it gives to the fæcal obstruction. The disadvantages are the resultant fæcal fistula and the disagreeableness induced by the presence of the sloughing gut for three or four days.

3. To divide the constriction as in 2, then to excise the whole of the gangrenous mass and stitch the healthy intestinal ends to the wound edges. A drainage-tube may be inserted here as in 2. The advantage claimed for this method is that we get rid of the sloughing intestine at once. The disadvantages are the resultant fistula, the greater time required, and the greater disturbance essential to the operation, and the possibility of troublesome bleeding from the intestinal edges or from the mesentery.

4. To excise the whole of the gangrenous tissues, to suture the intestinal ends closely together, to return them back at once into the belly, and to complete the operation as in an ordinary uncomplicated hernia. The advantages here are the perfect and immediate restoration to healthy conditions of the parts concerned ; fæcal fistula and all its more-imaginary-than-real attendant horrors being thereby avoided. The disadvantages are the great risk of intra-peritoneal leakage from the joint, the prolonged time required for the operation, and the severity of the attendant shock.

The method described as 2 is the one adopted in the above case, and is that which in my opinion will yield the best results. The operation is simple and not meddlesome, free in itself from danger, and can show a creditable list of successes, even to the ultimate closure of the resultant fistulæ. Number 1 I discard, because I fail to see what real advantage is gained by it. A case which recovers after this procedure would, I venture to think, get well if left entirely to nature. I have no great objection to 3 except that it appears to me by cutting into living intestine and mesentery we run too much risk for too little gain.

Number 4 may be regarded as the most complete, as it is the most fashionable of these operations; but it does not necessarily follow that it is therefore the best for the patient. None would deny for a moment, when enterectomy is perfectly successful, that it is far away preferable to enterostomy; but the comparative danger of the former more than outweighs its possible advantages. I know of several unpublished cases where gangrenous bowel has been treated by immediate enterectomy, and in every instance death has followed. A few successes have been published; but if we knew of the whole number where this operation has been performed, I do not hesitate to say that the death-rate would be found excessively high; and I am afraid it will always remain so. No analogy can be drawn from what is possible in formally planned enterectomy, where a patient may be specially prepared, and the absolute healthiness and emptiness of his bowels secured beforehand. In the case of gangrenous hernia we do not exsect through a healthy bowel wall; all we can look to is that the intestinal tissues are living. Life and health are here, as elsewhere, not essentially synonymous. It will usually happen that we have to suture a distended, irritated, congested, possibly inflamed gut end to another of unequal calibre, collapsed and altogether in a different condition of pathological disturbance. Again: in the case of hernia the proximal intestine is always distended by a flood of thin, highly irritative liquid fæces, which rushes over

the newly formed junction when the gut is returned into the peritoneum, and being resisted by the contracted tube below, a great pressure is thrown upon the bowel sutures, and fæcal leakage is very liable to occur. This difficulty may of course be avoided by partially emptying the open intestine before the suturing is begun; but then we should have thin liquid fæces "playing about" with an opening in the peritoneum, a state of things, to say the least of it, not free from risk.

In those cases where an artificial anus has become established and the urgent symptoms due to the obstruction have passed away, it becomes a question what is to be done with the fæcal fistula. Experience teaches us that many such cases get well of themselves. The fæcal-way through the lower bowel becomes established, the artificial opening gradually contracts, and at last heals completely over. In a certain number, however, although the distal intestine may resume its function, the fistula continues open, and then we have to decide upon the necessity of operative interference for its closure, by the effect of the discharge upon the patient's general condition and by the amount of discomfort to which it gives rise. Most fistulæ which remain persistently open will be found to possess a spur, and when such is the case we have choice of two procedures.

1, Dupuytren's well known operation of enterotomy, and 2, the more modern plan of enterectomy, either at the wound or through a separate abdominal incision; as to which is the better, subsequent experience alone will teach us. The number of successes claimed by the former greatly outnumbers those of the latter, but whether this is proportionate only I have no means of ascertaining. The opponents of Dupuytren's operation contend that during the introduction of the blades of an enterotome we are liable to take in any coil of intestine which may chance to lie between the layers of the éperon, and crush it when the instrument is closed. I think this is extremely unlikely to occur, if the blades are made "to nibble" their way along the septum instead of being pushed in widely apart and shut down at once upon whatever may happen to be in their

grasp. Except for this possible accident Dupuytren's operation is comparatively free from danger and in the above case it was practically painless. It was accompanied by no ill effect upon the constitution, and it was followed by complete and satisfactory recovery. I think, therefore, where the patency of a fæcal fistula appears to be determined by the presence of a spur, that this should be *freely* divided—even although more than one application of a crushing instrument may be necessary—before resort is had to the more hazardous proceeding of enterectomy.

SURGICAL CASES.

UNDER THE CARE OF MR. GILBERT BARLING, F.R.C.S.

Case I. Renal Calculus. Exploration of Kidney. Failure in Discovering Stone.—A., male, aged 44, was sent to me in April, 1887, by Dr. Lyster, of Coleshill, with the following history:—For a year or more he had suffered from discomfort in the left loin, and three months previously he had an attack of renal colic, commencing with pain in the back, passing down the course of the left ureter to the upper part of the thigh and scrotum. The pain was accompanied by shivering and vomiting, but no blood was observed in the urine. The patient soon returned to work, although suffering from persistent pain in the left loin.

When I first saw A. he was stout and robust looking, but had given up work on account of his pain, and has not resumed it up to the present time. Pain was complained of in both loins, but especially in the left, and there was slight pain at times in both thighs, in the scrotum, and at the base of the sacrum. There was tenderness, on pressure, over each erector spinæ for a space of two or three inches at the level of the kidneys, and there was an especially tender spot at the base of the sacrum. The urine was slightly acid, clear, sp. gr. 1.015, no albumen, no blood, no pus, no crystals, but phosphates were precipi-

tated on boiling. At this, my first interview, I had some doubt, from the diffuseness of the pain and tenderness and the condition of the urine, whether renal calculus existed, thinking that one had existed and been passed per urethram, and that rheumatism of muscles and fascia explained the symptoms; but on May 2nd the patient, after a severe attack of renal colic, passed a uric acid calculus, elongated in shape, very rough on the surface, and weighing twelve grains. After this the symptoms remained much the same, pain being always worse in the left than in the right loin, and tenderness still remaining over each erector spinæ and at the base of the sacrum and of the coccyx.

On August 22nd I discovered a small, tender, hard swelling in the course of the left ureter, just where it crossed the brim of the pelvis, and which I regarded as possibly a small impacted calculus, but in September this had disappeared and, thinking it might have passed on into the bladder, I sounded for it but without result. Repeated careful examinations were made of the urine; the quantity passed varied from 44 to 72 ozs., and the sp. gr. from 1007 to 1028, but it was generally about 1016; occasionally there was a faint haze of albumen, once only were red corpuscles observed and never any pus cells. Sometimes crystals of uric acid, oxalate of lime, and phosphate of lime were present, but more commonly not. We pressed upon the patient the advisability of having the kidney explored for stone on account of his suffering and his incapacity for work, and though he had pain and tenderness on the right side yet everything pointed so strongly to the left kidney as the seat of the trouble that there was no hesitation in selecting this side for exploration.

On October 24th, therefore, assisted by Mr. Elliott, Dr. Lyster giving ether, I cut down on the left kidney by the ordinary transverse lumbar incision, some difficulty being experienced in reaching the organ owing to the stout build of the patient. The posterior surface of the kidney and pelvis were first explored with the fingers, then the anterior; the organ was large and very

firm, but no markedly indurated spot was found in it. By means of a bare tip pin the kidney substance was systematically punctured on the posterior surface, but nothing was detected. Finally, an incision was made into the posterior surface of the kidney, near the lower end and somewhat closer to its internal than to its external border, and through this a silver probe was introduced and passed into a cavity with soft walls, which was searched in all directions but without detecting a calculus. Pressure for a few minutes having stopped the bleeding, which had been rather free, the wound was closed, two drains being inserted, one in front and the other behind the kidney. Recovery was rapid and uneventful, the highest temperature being 100.5, and the patient being allowed to get up on the sixteenth day. For a short time after the operation the pain seemed decidedly less, but returned, and when the patient was seen, about three months later, the condition was as follows: pain in both lumbar regions and sometimes in the abdomen, marked tenderness also in the same area but specially on the left side, complaint of vague pains in both thighs and buttocks, occasional attacks of pain descending the left ureter, with shivering and vomiting. Urine acid, depositing phosphates on boiling, but free from crystals, blood, and pus. Dr. Lyster informs me that at present the symptoms are practically the same, but that the patient has recently become much thinner.

The failure in finding a stone may be due to the fact that none existed, but I believe the diagnosis was well founded, and in seeking to determine how a stone may have been missed I am inclined to ascribe it to one of three things. First, the incision into the kidney may have failed to open the pelvis and the finger stripping up the renal structure from the outside of the pelvis may have produced a cavity into which the sound passed. This happened in a case described by one of my colleagues whom I assisted in the operation; we both thought the pelvis had been opened but it was subsequently found that the pelvis was greatly dilated, that it had not been opened, that the kidney substance had been stripped off the pelvis, forming

a cavity into which the finger and sound had entered, and that there was a calculus at the most dependent part of the dilated pelvis. From numerous examinations in the post mortem room, too, I find that it is extremely difficult at times to be absolutely certain that the pelvis has been opened by an incision. Supposing, however, that the pelvis was properly opened, a second cause of failure may be found in the possibility of the stone having passed into the upper part of the ureter. A third explanation may be found in the existence of that rare condition a double pelvis, of which some curious examples have been described.

The patient being incapacitated from work and apparently suffering greatly, I am wishful to re-examine the same kidney, but he is an extremely nervous man, and naturally shrinks from this in view of my not being able to give him something like positive assurance of relief. Should he consent, I propose to incise not the renal substance but the pelvis where it becomes ureter. Through a small opening here a silver sound would be able to explore the ureter freely, and to pass with certainty into the pelvis. If a stone be found, it could be removed by cutting directly on to it, the original opening in the pelvis being sutured.

Case II. Severe Compound Fracture of Leg. Failure of Union in Tibia. Two Osteoplastic Operations Resulting in Firm Union.—T., aged 32, a carter by occupation, was admitted to the General Hospital under my care November 30th, 1885, suffering from a severe compound comminuted fracture of the tibia and fibula, with much laceration of the skin and soft tissues. Almost, I may say, against my better judgment I determined to try and save the limb. Many completely detached pieces of tibia were removed, but a bridge of bone was left posteriorly, so that no complete gap existed between the two main pieces of the bone; numerous drains were inserted, and a carbolized gauze dressing was applied. There was some suppuration and a good deal of skin sloughing, but the patient bore his trouble well, although Mr. Morrison, the resident surgical officer, and myself had great difficulty in

keeping the limb splinted, owing to the destruction of the soft parts—sometimes a posterior, sometimes an anterior splint, then a lateral one, the position being changed almost from day to day; but we had at last the satisfaction of seeing the limb cicatrize almost completely, and the patient went to the Convalescent Home. In September, 1886, he again came under my care with the soft tissues of the limb sound and the fibula strongly united, but with a considerable gap between the pieces of the tibia. To remedy this I made an incision over the ununited fracture, removed the dense fibrous tissue from between the fragments, and scraped their ends. Finding then that they could not be approximated, I resected a piece about three-quarters of an inch long from the fibula, and then wired the ends of the tibia together. Although a good deal of disturbance of the soft parts was made, there was but little suppuration following, and scarcely any constitutional disturbance, and the patient was soon discharged from the Hospital with a fixed case on the limb.

In January, 1887, the tibia being still ununited, I made a second attempt to secure union, thinking that failure may have been due to the sclerosed state of the tibial ends interfering with the production of sufficient reparative material. The ends of the tibia were therefore exposed and about a-quarter of an inch of very dense bone removed from each extremity, the wire of the previous operation being also removed. The fibula was then fractured, and to approximate the ends of the tibia—a very difficult matter—I introduced two steel knitting needles obliquely into each fragment and looped round them a stout silver wire, which succeeded for the time being, although there was a great strain upon it. By the third week all the needles had become loosened and were removed. There was again moderate suppuration, but the patient bore it well and eventually the wound healed. After many weeks of doubt it was evident that union was taking place, so the patient was allowed to put some slight weight on the limb which at length became quite firm, and in October, 1887, he was able to resume work with a strong limb nearly two and a half inches shorter than the other.

REVIEW.

THE THEORY AND PRACTICE OF MEDICINE.*

The fact that this handbook has now reached its seventh edition is sufficient evidence of its popularity and success. The difficulty of compressing within a space of about 1,000 pages all the leading facts in medical pathology and treatment, and of allocating adequate space and emphasis to the more important details is one not lightly to be estimated. It is the experienced clinical teacher alone who can undertake such a task. An accurate and extensive knowledge of disease must be combined with an intelligent appreciation of the requirements and difficulties of students, and there is further required a capacity for expressing, in the clearest manner, the essentials in the description of disease and its treatment. The admirable manner in which these conditions are fulfilled in Dr. Roberts' book is, without doubt, the secret of its success. Indeed, the very completeness of the work is surprising when we find faithful pictures of such affections as peripheral neuritis, Raynaud's disease, beriberi, and actinomycosis. These maladies have been brought into prominence by the discussions of recent years, and the brief and accurate descriptions in this edition will do much to familiarise students and practitioners with their phenomena.

The earlier sections on general pathology have to some extent been re-written. We notice that special prominence has been given to the views of Macalister on fever as enunciated in his Gulstonian lectures, 1887. The advisability of admitting debatable hypothesis of this sort into a student's manual may well be called in question. By the bye, surely *Febris sine febro* is a printer's error. The theory of Beale that the bioplasm of

* The Theory and Practice of Medicine. By Frederick T. Roberts M.D., B.Sc., F.R.C.P.; Professor of Materia Medica and Therapeutics, and of Clinical Medicine, University College; Physician to University College Hospital; &c., &c. 7th Edn. H. K. Lewis, London. 1888.

the blood and tissues is increased in pyrexia is another of those hypotheses which never at any time had many adherents. It is more than once unnecessarily alluded to in this work. The old-fashioned English teaching as to the distinction between croupous and diphtheritic inflammations of mucous membranes is still followed, while no allusion is made to the important pathological processes involved under the term necrosis. In discussing the treatment of diphtheria hardly sufficient reference is made to recent methods. The same may be said of the sections on the treatment of acute rheumatism, in which the value of salicylic acid and the salicylates is, in our opinion, not sufficiently insisted upon. Pasteur's inoculation treatment of rabies receives the author's support.

The portion of the work devoted to nervous diseases has been edited by Dr. Beevor and bears evidence of a careful study of the best and most recent English authorities. Many omissions and errors which we noticed in former editions have been corrected. The author is to be congratulated on the position his work has won and maintained as a thoroughly reliable manual of reference and text book.

RETROSPECT.

NERVOUS DISEASES.

BY C. W. SUCKLING, M.D., LOND., M.R.C.P.,
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General Paralysis in Females—According to Dr. Siemnerling, Berlin (Le Progrès Médical, July 1888), the proportion of women to men suffering from general paralysis admitted into La Charité from 1880 to 1886 was one to three: The age in women most liable to the malady is between 36 and 40 years. The greatest proportion of the women were married. Amongst the unmarried, prostitutes numbered about six per cent. The causes

observed by Dr. Siemnerling to be most conducive to the disorder appear, in this last class, to be their unfavourable social conditions, after which were syphilis and hereditary tendency. In a clinical point of view the author had directed special attention to the fixity of the pupil and the state of knee reflex. The first was present in sixty-four per cent. of the cases ; knee reflex was augmented in thirty-four per cent. The course of the disease is observed to be, generally, calmer than in men.—(The Provincial Médical Journal.)

Amblyopia from Symmetrical Lesions.—Profound amblyopia without ocular lesions and with voluminous hæmatomata, comprising the whole of the occipital lobes, has been observed by M. Audry, and related in the Lyon Medical, No. 33. The patient was a man of 45 years, whose illness began three months before August, 1886, with headache, at first intermittent and then continuous. One month before admission walking became difficult and *titubation* well marked. Considerable loss of sight occurred about the same time, also noises in the ears with obstinate constipation and vomiting. The movements of eyes and lids were normal, and the pupils equal. He could not read; diplopia was not present. There was weakness of the upper limbs; knee jerks were absent; there was much swaying in attempts at walking, and a tendency to fall backwards. The pulse was fifty-six and regular; no albuminuria; no glycosuria. Later on the pupils did not react to light, and were constantly dilated. At the necropsy many clots and much fluid blood existed in the hæmatomata over both occipital regions, and the effusion was situated between the dura mater and the arachnoid.—(Lancet, September, 1888.)

Visual Cortical Centres.—La France Médicale, No. 93, records a fresh series of experiments by M. Vitzon on the situation and extent of the cortical visual centres. Munk considers the occipital lobe to be the only cerebral cortical region concerned in visual perception, whilst Ferrier, Yeo, Luciani and others include the angular gyrus. Vitzon has experimented on dogs of moderate size and, using Pacquelin's knife, has removed

the grey matter of Munk's visual zone on one side, and complete loss of sight in the opposite eye was noted after the operation. Simultaneous ablation of both occipital lobes caused permanent and complete blindness — (Lancet, Sept. 1888.)

Galvanisation of the Thyroid in Epilepsy.—Dr. Celso Sighicelli has recently reported some cases of epilepsy treated by galvanising the thyroid. He was induced to try this plan by reading Albertoni's account of convulsive attacks occurring in dogs whose thyroid glands had been excised. Dr. Sighicelli had in two cases of mental disease noticed signs which appeared to him to indicate that changes in the thyroid had a direct influence on cerebral nutrition, and might thus cause psychical disturbance. He was therefore led to think that epilepsy might in certain cases be dependent on some abnormal condition of the thyroid. He applied a constant current of moderate intensity to each lobe of the thyroid alternately, at first for two or three and afterwards for four or five minutes at a time. The patients, seven in number, were all of the male sex, and in all the disease was of long standing. In three no visible effect was produced; in the remaining four there was soon a diminution in the frequency and intensity of the attacks.—(British Medical Journal.)

Lipomatosis Neurotica (Lancet, Aug., 1888).—Dr. M'Lane Hamilton records a case in Archives of Pediatrics, No. 55. The patient is the son of Mormon parents, both of whom are alive and well. Several instances of neuropathic transmission exist, there being at least one idiotic child among the members of the family of the patient. Various minor trophic skin and hair defects also exist, one little sister having one white and one black eyebrow. The patient was in good health till four years of age, when he had pertussis. When five years old his face looked thin, and there were lines around his mouth when he laughed; calves of legs plump and large. This condition continued some time, with peevishness and irritability. There was little waddling, and no marked exaggeration of the dorsal curve. The tendon reflex was present, and the muscles reacted

to Faradism. The sphincter acted naturally, and sensation was perfect. A year later the tongue became thick and hard, and nearly all the muscles of the face showed R.D. The muscles of the body generally reacted feebly to Faradism, but readily to galvanism. Intellectually the boy presented a curious irritability and timidity, a destructive tendency being also marked. Duchenne called attention to subcutaneous deposition of fat in atrophic muscular disease, which cases are likely to be mistaken for pseudohypertrophic paralysis. Landouzy has published a case of hemiplegia with fatty deposits. Pitouix has observed subcutaneous fatty deposits in old cases of sciatica and neuritis. Landouzy has reported a case of cervical pachymeningitis, with neuritis of brachial flexus and atrophy of muscles of the arm, with increase in the eye of wet fatty deposit.

Spasmus Nutans in Dentition.—Dr. E. Torden, of Brussels, recently had a case of this disease or “tic de salaam,” not a very common disease. This case was that of a little girl of ten months, still at the breast. A month previous to her admission the mother had noticed a slight but nearly constant nodding motion of the head. When examined for the first time the chief motion was rotatory. The eyes also rolled from side to side, especially when the head was held. There were two teeth. The child was treated with oxide of zinc and bromide of potassium, and recovery had ensued in six weeks. By that time she had cut two new teeth. There could be little doubt that the affection was a complication, though a rare one, of dentition.—The Lancet, Feb. 11, 1888.

Auditory Allochiria.—This condition was first described by Obermeister in 1882, and consists in the perception of a sensation on the opposite side of the body to that on which the excitation was made. Tabes dorsalis and other spinal diseases afford the most frequent examples of it. M. Gellé has observed in a young person affected with chronic hyperplastic otitis and auditory hyperæsthesia of the left side, but not presenting any sign of paralysis, hysteria, or tabes, an auditory allochiria consisting in the fact that the patient heard on the left side a piping sound

produced in the right carotid artery under the influence of the least effort or of the slightest emotion.

Habit Chorea.—Dr. De Schweinitz (reported in the Lancet) in the Polyclinic, No. 12, believes that habit chorea is frequently and considerably due to errors of refraction and other local conditions of the eyes. Seven cases are recorded to show what part the correction of the errors of refraction played in the treatment of this disorder. In three cases the habit spasm had existed for a long time, internal medication and hygiene failing to relieve. In one case the eyes were emmetropic, but some spasm of accommodation and phlyctenular conjunctivitis existed. When, by the use of atropine, these conditions were removed, recovery from the spasm ensued. The author speaks of the value of closely observing the condition of the conjunctiva, especially of the retrotarsal fold.

RESPIRATORY DISEASES.

BY ARTHUR FOXWELL, B.A., M.B.

Treatment of Empyema by a Valvular Canula.—Dr. Rogée brought this idea before the French Association for the Advancement of Science on the 20th of March. He used it successfully in two cases to prevent the permanent collapse of the lung. The apparatus itself was described in the Gaz. Hebdomadaire in 1882. It is of complex construction, but the principle is simple. The fluid is not withdrawn suddenly, but the canula is merely inserted, and this allows the patient to expel any liquid by coughing, deep inspirations, &c.; whilst its valves prevent any entrance of air to take the place of the expelled fluid. A temporary loss of pressure thus occurs within the pleural cavity, which is soon balanced by this undergoing a corresponding expansion.—Le Progrès Médical, April 7th, 1888.

Intra-pleural Injections of Sterilised Air in the Treatment of the Fluid Effusions arising after Pneumothorax.—M. Potain summed up a communication to the Académie de Médecine on

April 24th, thus: 1. It is possible to completely replace the fluid by sterilised air. 2. Such air (*e.g.*, that obtained by filtration through cotton wool) is quite innocuous. 3. The danger resulting from the presence of a large quantity of fluid is thus avoided. 4. It avoids the serious inconvenience of frequently renewed tapplings, and gives the lungs the chance of a slow and progressive expansion. 5. It seems to favour the cicatrisation and healing of the tubercular lesions by allowing the lung a long period of repose and inactivity.—*Le Progrès Médical*, April 28th, 1888.

Climate of Algeria.—M. Pauly read a paper before the French Association for the Advancement of Science on March 31st. He concluded that the north wind, combined with the cold of the upper strata of the atmosphere, made the Algerian littoral very damp. But inland this moisture is less, and the climate therefore better. It is driest of all on the high plateaus and in the Sahara. Algeria is a region perfectly habitable, but one must lead a very active and locomotive life, the life in fact of the agricultural proprietor. Phthisis can undergo great improvement in Algeria, but only under the same conditions of existence and freedom as those which tourists make use of.—*Le Progrès Médical*, April 7th, 1888.

The Tuberculisaton of Natives by Strangers in Southern Stations.—At the same meeting M. Laussedat read a paper to show that 25 years ago tuberculous subjects were very rare at Cannes, but that now they are actually very numerous in the native population, especially amongst children and young people, although these have not inherited it. This, he stated, was partly owing to the unhealthy habits contracted from contact with wealth, partly to the dissemination of bacilli from sick strangers, and partly to the dirt of the inhabitants. He asked that these conditions should be controlled in Hyères, Pau, Amélie, Alger, &c.; that cleanliness should be taught in the schools; that articles of furniture should be destroyed; and that stoves should be attached to the laundries.—*Le Progrès Médical*, April 7th, 1888.

Acute Phthisis in a Child of 13 Months.—At the New York Pathological Society Dr. T. J. Griffiths showed a specimen exhibiting very extensive deposits of tubercle in the lungs and lymphatic system. On April 22nd, 1888, the child was brought for treatment of diarrhoea of three days' standing. This passed away, and the child remained well till May 17th, when she was again brought up with motor paralysis of the entire left side, including the face. The pupil of the same side was dilated; there was no paralysis of sensation; moderate diarrhoea; otorrhoea on the left side; temperature 100°. Six days later there was also motor paralysis of the right leg. During the next ten days motion slowly returned to the left arm and leg. On May 30th the child was admitted, and the cervical, epitrochlear, and inguinal glands were enlarged, and there was ptosis of the left lid. On June 8th it was much worse, respiration rapid and laboured. Dulness anteriorly and posteriorly on the right chest, and the respiratory sounds were absent over the whole lung; no retraction of intercostal spaces; lessened movement. Left chest tympanitic; bronchial breathing and coarse bronchial râles; marked retraction of the intercostal spaces; temperature 104°. Death on June 12th. Autopsy two hours after death: Child fairly nourished; brain markedly anaemic, but otherwise normal; upper right lung collapsed, lower entirely occupied by a large tuberculous mass, which had broken down at several points; pulmonary pleura studded with tubercle. On left side much pleuritic adhesion anteriorly and laterally. In the substance of the entire lung were many deposits of yellow, caseous, tuberculous material. The lymphatic system was largely involved. The cervical, bronchial, retro-peritoneal, inguinal and epitrochlear glands were all much enlarged and caseous, and many were diffuent at their centres. The liver was anaemic and fatty; other organs normal. The case is interesting because (1) no cerebral lesion to account for the cerebral symptoms; (2) tubercle confined to lungs and lymphatic system; (3) epitrochlear enlargement due to tubercle and not syphilis.—New York Medical Record, August 4th, 1888.

Rheumatic Laryngitis.—"This is a painful affection of the vocal organ, attended by more or less hoarseness and fatigue of the parts after talking, and sometimes by grave or even fatal obstruction of the glottis. The affection may be either acute or chronic. The acute disease, from having been associated with articular rheumatism, has been recognised for several years, but it has been but little studied, and the literature of the subject is meagre. . . . Of the chronic form, to which I would now draw attention, I can find no mention in medical literature." This chronic form occurs in a person of rheumatic diathesis, but often the larynx or the tissues about the hyoid bone present the only evidence of the constitutional affection. The pain is not constant, but may frequently disappear for a few days, especially during fine weather, to return again on slight exposure, or with changes in the temperature. Its course is erratic, but nearly always obstinate. Rheumatic pains about the body are not infrequent, and often there is an inherited or acquired predisposition to rheumatism. In no case have I found the pain very severe. Sometimes it is most noticeable on using the voice, but is usually more troublesome when swallowing. It is usually referred to one side of the larynx, sometimes also to the trachea, the greater corner of the hyoid, base of the tongue, and lower part of the corresponding tonsil. Sometimes these latter situations seem painful while larynx escapes, but even then there is usually fatigue after talking. Hoarseness and aphonia are also frequent symptoms. One or both arytenoids may seem slightly congested, or the redness may be confined to one side of the fauces or to the pharynx. The cords remain clear, and the inflammatory symptoms seem altogether inadequate to account for the discomfort. In some cases the parts involved seem slightly swollen, but in others no change of form is noticeable. It is this slight redness and swelling which enables one to diagnose it from neuralgia, and the result of treatment will bring confirmation. Its duration varies from two months to one or more years. Treatment: Locally stimulant and astringent sprays, or pigments, and in some cases galvano-cauterisation of the

congested surface seems to have aided much in recovery. Constitutional treatment is mainly to be relied on : Iodide of potassium, salicylate of soda, guaiac, colchicum, and cimicifuga, have all been tried with more or less success. Extract of phytolacca has been given with apparent benefit, and oil of gaultheria, in doses of fifteen minims, three times a day, has at times given satisfaction. E. Fletcher Ingalls, B.M., M.D., in *American Journal of the Medical Sciences*. January, 1888.

SURGERY.

BY JORDAN LLOYD, F.R.C.S.,
SURGEON TO THE QUEEN'S HOSPITAL.

Hydrops Intermittens Articulorum.—A valuable paper on the above rare and but little known disease by A. H. Fridenberg, M.D., of New York, appears in the *N. Y. Med. Rec.*, June, 1888. He claims that the two cases herein published are the first which have been recorded in America, and he supplements these by notes of twenty-four others, being all he can find recorded after a most exhausting search of medical literature. The main characteristics of the disease may be briefly summed up as consisting in serous exudation into one or more joints, arising without appreciable cause and recurring and subsiding spontaneously at certain definite periods. The leading features of the malady are mainly suggestive of involvement of the vaso-motor system. Palpitation, attacks of syncope, exophthalmos, rigors and transpiration find mention in five cases. The symptoms of Basedow's disease are fully developed in two cases. Various emotional disturbances, depending perhaps on the marked anæmia, are emphasised in others. The remarkable influences exerted upon the course of the disease by the intervening pregnancies must not be overlooked, although a satisfactory explanation is impossible. In eight out of nine recorded,

pregnancies occurring in the course of the disease, a complete cessation of the attacks, from the conception for an average period of six weeks, is noted. There does not appear to be any causal or periodic relation between the occurrence of the attacks and the menstrual function. We need not hesitate to look upon the disease as a neurosis of vaso motor origin and of a non-inflammatory type. The most interesting feature, apart from the mystery of its pathological significance, is its periodicity, which Dr. Fridenberg does not regard as in any way "malarial." He obtained most benefit in his cases from electricity applied in the form of the galvanic current to the medulla, daily at first, less frequently later, the electrodes being placed upon the mastoid processes, and the strength of the current being cautiously regulated according to the patient's sensations, avoiding dizziness and flashes of light.

Gritti's amputation through the thigh.—Dr. E. Ried, of Munich, describes (*Annals of Surgery*) a modification of the above operation as follows:—The extremity is held in the extended position. The anterior flap is formed by an incision passing from the middle of the external condyle of the femur (on the right side), or the internal condyle (on the left) to within two or three fingers' breadths below the border of the patella; the incision is carried from the other condyle downward and forward, meeting the first at the tuberosity of the tibia. The skin is retracted and the ligaments divided. The crucial ligaments are left intact. The femur is divided at the upper limit of the patella. The posterior flap is now formed of skin and connective tissue; the rest of the structure being divided as high as the point of division of the femur. The arteries are tied. The patella is freed from fat and connective tissue, and the articular surface of the bone sawn off. The two flaps are apposed by means of one deep silver-wire suture, and several superficial catgut and silk sutures; closing with drainage, antiseptic dressing, and higher position of stump. The apposition of sawn surface of patella of femur is a loose one. Ried's mortality is thirty per cent. in ten cases; ages of patients varied between nineteen and sixty.

Operative treatment of paralytic joints.—Zinsmeister (*Deutsche Zeitsche fur Chirurg.*, Bd. xxvi., p. 498) writes of the procedure of making an artificial ankylosis in joints which are useless from paralysis. Albert has recently operated on 10 patients; 14 operations: 5 at the knee, and 9 at the foot. The results were satisfactory in all. Six weeks after the operation, as a rule, the patients were able to go about. The operation is especially indicated for the poor who are unable to procure appliances for locomotion. Albert does not advise a typical resection, but a simpler procedure; namely, the removal of the cartilaginous surface of the joint. This is sufficient for ankylosis, and wiring of the bones is not necessary. It is not necessary to remove the synovial membrane. A typical aseptic first intention does not give as firm an ankylosis as if there is some slight suppuration, and he advises keeping a small layer of iodoform gauze on the wound until slight suppuration takes place. In paralytic club foot it is better to remove the astragalus.

Resection of Ribs in Empyema.—At a recent discussion in the French Congress of Surgeons, Bouilly divided into five classes the cases in which the above operations are to be considered:—
1st. Large cavities in which the lung, fastened to the vertebral column by thick false membrane, is entirely and permanently collapsed. In these cases the operation is useless and dangerous.
2nd. Large cavities in which the lung though condensed still preserves a slight vesicular murmur; intervention is then sometimes useful, particularly in young patients, and when the cavity does not extend beyond the third rib.
3rd. Cavities from eight to twelve centimetres in diameter; these are those which present the most favourable conditions for cure.
4th. Simply fistulous tracts of greater or less length; if they are short and straight the results will probably be good; the prognosis becomes less favourable when the fistulæ are long and tortuous.
5th. Cases in which there are moderate-sized cavities with fistulous tracts communicating with them; in these the prognosis is favourable.

The Treatment of Stricture of the Urethra by Electrolysis.—Dr. Burchard (*N. Y. Med. Record*, June 16) writes favourably

of the above. He details several cases at length and thus concludes:—*Firstly*. Many cases of stricture of the urethra, especially those of a fibrous nature, can be more effectively relieved by the action of the galvanic current applied locally than by either gradual dilatation, divulsion, or internal urethrotomy. *Secondly*. The operation, while radical and effective, is conservative and physiological. And *Thirdly*. The operation is painless and bloodless.

Successful Operation for Ruptured Urinary Bladder.—Dr. H. H. Grant reported the case (American Practitioner, June 9) to the Louisville Surgical Society. The patient had been run over by a light cart, and suffered intense pain. Some ten or fifteen minutes after the accident he endeavoured to urinate, but could pass a few drops only. When first seen, the bladder had not been emptied for six hours. The catheter was introduced, and only two or three ounces drawn. External examination showed only a little bruise. The catheter was again introduced and allowed to remain for ten or fifteen minutes, but no water came at all, and there was no fluctuation over the abdomen. The perineum was aspirated but no urine found. A sound was introduced into the urethra and met with obstruction, which was thought to be due to rupture of the urethra. An incision (after using all antiseptic precautions) was made from the pubes to the umbilicus. The peritoneum was infiltrated, and some blood-clots were found loose in the abdominal cavity. There was also some oozing through two little openings in the peritoneum. When the peritoneum was opened a large amount of fluid, probably as much as a half gallon of blood and water, rushed out. A finger found, crushed off from the pubes, a piece of bone, evidently loose, though not entirely free. This was not disturbed. A sound was passed into the bladder and protruded through a rent into the peritoneal cavity. This rent was easily reached by passing a strong ligature through the posterior portion of the bladder and drawing it out. The bladder was closed with Lembert sutures of silk one-fourth of an inch apart; eleven being used. The abdomen was closed with due antiseptic pre-

cautions, and a rubber drainage-tube of moderate size inserted. Gauze dressing was applied and the patient given a dose of morphine. The catheter was used every two hours. The patient was fed carefully and systematically, and was nursed and watched with scrupulous care. There was nothing of especial interest in the after-treatment, except that the drainage tube was aspirated every day, and that the bladder was relieved every two hours on the first day, and then four or five times a day up to the tenth day, when catheterization was discontinued. The temperature never got above 99.2° , and the pulse never went beyond 115. The wound united by first intention. The drainage-tube was left *in situ* until the sixth or seventh day. The pulse was frequent, but the patient did not seem to be gravely depressed. The most marked indications of shock were the intense pain and the frequency of the pulse.

Sarcoma of the Bladder.—In the June and July numbers of the Medical Chronicle appears a valuable paper by Mr. F. A. Southam. He thinks that sarcoma more commonly affects the bladder than is generally said to be the case, and that such growths are usually primary. They are most common at two periods of life, viz.: under ten and between forty and seventy. Males are more commonly affected than females. The growths usually originate in the connective tissue of the submucous layer and are most often met with at the face or on the posterior wall. They are often multiple, especially in children. The surface of the growths may or may not be villous in character, and the tumours usually remain confined to the walls of the bladder. Secondary deposits in other parts of the body are more frequently absent than present. Evidences of chronic cystitis are found as a rule in the bladder structure. Secondary changes in the kidneys are after a time usually produced, either in the form of distension from ureteric obstruction, or from pyelitis. Secondary deposits are rarely seen in the kidneys. The general symptoms are those of hæmaturia with vesical irritability. In discussing leading signs in detail, Mr. Southam says that hæmaturia is a prominent and often an early symptom. It frequently precedes the signs of

irritability, sometimes it comes on at the same time, and occasionally it follows afterwards, and cases are recorded where it has been altogether absent. Micturition becomes more painful and frequent as the disease progresses. Sudden stoppages sometimes occur when the tumour is pedunculated and is drawn over the vesical outlet. Only when the tumour is of firm consistence can we obtain evidence of its existence by digital examination from the rectum or by careful sounding. Microscopic searching of the urine for small detached pieces of the growth is of the greatest possible value. A diagnosis of sarcoma from papilloma or cancer is often quite impossible. Untreated cases sooner or later terminate fatally in a period from one to four years. With regard to treatment, Mr. Southam argues that as palliative measures are of little use, the bladder should be explored and an attempt made to remove the growth with forceps, scraping or ecraseur. He gives preference to the suprapubic incision, because of the free access it gives to the whole interior of the bladder cavity. Speaking of recurrence after removal, he says this is to be expected, especially when the growth is sessile and infiltrates the walls. The results of operative interference show that life is undoubtedly prolonged and symptoms much relieved. Whether permanent cure is ever to be obtained, future observation can alone determine.

A case of Typhlitis and Perforation; Laparotomy; Recovery.
—Dr. McMurtry brought this case before the American Medical Association at their May meeting. The patient, a young physician, had been subject to short attacks of colic, accompanied by nausea and vomiting, with pain in the iliac region. There was marked dulness on percussion, and on palpation an induration was perceived over the line of the ureter, giving the impression of obstruction of that duct. Later the swelling of the iliac region increased and a tumour of the caputcoli was recognised. An incision was made over the median line, when it was found that there was no general peritonitis. The cæcum was drawn to the opening and the vermiform appendix found normal. Two perforations, as large as silver quarters, on the anterior surface

of the cæcum allowed the contents of the gut to escape. These were made elliptical in shape, and closed with silk sutures. The diseased parts were cleansed, a rubber drainage-tube was introduced, and the wound closed with silk. The bowels were evacuated on the third day, and convalescence proceeded without the temperature rising above 100° , so that on the fourteenth day the drainage-tube was removed. Opium was used very sparingly.

On Whitehead's operation for Hæmorrhoids.—Dr. R. F. Weir (New York Medical Record, July 14) contributes his recent experiences of the above. He tried the operation first, more than a year ago, and abandoned it in favour of Allingham's ligature. A more recent paper by Whitehead however, led Dr. Weir to give the operation another trial, and now through its latest improvements he has become re-converted. He gives the details of six consecutive cases. He concludes that while for the less severe cases of piles the operation of injection with carbolic acid is to be first thought of, and while for the more decided form of this disease, Allingham's method yet stands unequalled; yet for extensive conditions of hæmorrhoidal disease, which have hitherto been treated by tying off three, four, and sometimes more masses, he thinks greater efficacy and greater permanence of cure and less after discomfort will result from Whitehead's operation. Bleeding is trivial in amount, and there is no after tendency to formation of stricture.

The Erasion of Carbuncles.—Dr. Weir (loc. cit.) details four cases of carbuncle treated by excision. The slough was exposed by the scalpel or Volkmann's sharp spoon and the affected parts scraped out in a very elaborate manner. The bleeding is apt to be profuse, but is easily checked by pressure. The immediate effect by the treatment is to change at once the character of the pain from that of a burning type to the smarting of an ordinary wound, which speedily passes away with or without the use of anodyne. The temperature, if previously elevated, also fails, and the other constitutional symptoms ameliorate. In one instance, Dr. Weir has supplemented this treatment, and with

advantage apparently, by injecting into the reddened inflamed tissue, beyond the reach of the sharp spoon, a solution of 1 to 20 carbolic acid, covering by these injections an area more or less completely surrounding the carbuncle. The risks of pyemia, septicemia and exhaustion are very much lessened by this treatment and repair is more rapidly established.

An appliance to prevent Masturbation.—Dr. Sorrell Flood details a case of Onanism (Boston Med. Surg. Journal, July 12), which was cured by the following means. The mechanical appliance was a plaster bandage arranged as follows:—"A sheath of oil silk was first made, to cover the penis and project an inch beyond, the limp organ hanging straight down between the thighs; then a layer of cotton wadding covered in the scrotum and buttocks, leaving a triangular opening, three inches on each side for defecation. The plaster bandage then covered all, and went down around the penis and up about the waist, making when hard a complete casing, so that the boy's frontals might have been in the next county for all the sensation his hands could communicate." He managed well at stool, suffered no chafing from the edges between the thighs, walked freely enough and urinated while standing and holding the vessel under the projecting oil-silk.

A case of Excision of a Dislocated Spleen and subsequent expectoration of the ligature of the pedicle.—Dr. T. A. McGraw, of Detroit, details (Medical Record, June 30) the above case. A woman aged 40 years had suffered from "malarial fever" eighteen years before, and the spleen enlarged at this time. The splenic tumour had been a frequent source of trouble ever since. In June, 1887, Dr. McGraw excised the dislocated spleen, ligaturing the pedicle with stout braided silk. The patient did well for several days, and then developed symptoms of pleuro-pneumonia in the left chest. On August 13th she had completely recovered and left the hospital. Seven months later she began to suffer from pain in the left side and hæmoptysis, and on April 1st, more than nine months after the operation, she expectorated the braided silk

ligature which had secured the pedicle. There could be no question of deception as to the ligature, and Dr. McGraw considers that it escaped via the lungs rather than the stomach. The patient soon afterwards made a complete recovery.

A proposal for the Treatment of Gangrenous Intestine in Hernia.—(Central. f. Chirurg., 1888, No. 22).—Rosenberger recommends the establishment of an artificial anus. Suture of the intestine at the point of perforation after excision of the gangrenous part, and circular resection of the intestine, have so far given anything but satisfactory results. He recommends that on opening the hernial sac the stricture is to be divided by multiple small incisions and the gangrenous gut fixed to the sac by a few sutures. The loop in its entirety is then to be excised, and a large drainage-tube inserted into both openings in the gut. The wound is then nearly closed, sufficient room being left for the drain-tubes. These are removed after two, or at the latest, three days. Three cases are given, two recoveries—one after six weeks, the other after four months; one death, a woman aged 77 and very weak.

Gunshot wound of Stomach and Liver treated by laparotomy and suture of visceral wounds, with recovery.—The above brilliant case is recorded by Dr. Dalton, of St. Louis (Annals of Surgery, Aug. 1888). A coloured man, 22 years of age, was shot in the abdomen with a revolver. The wound of entrance was five inches to the left of the median line, and two inches above the umbilicus. It was found that the bullet had entered the abdominal cavity, and median laparotomy above the umbilicus was at once performed. Two holes were discovered in the stomach, the one of entrance in the anterior surface three inches below the cardia; that of exit in the superior portion of stomach, about an inch and a half from the pylorus. The bullet ploughed through the lower margin of the left lobe of the liver at a point an inch and a quarter from the fissure, leaving a V shaped gap a half inch in depth. The stomach wounds were sutured with thin dyed silk Lembert sutures, and that in the liver with one stout catgut stitch passed very deeply. Whole

intestines were then examined and no other wound being found, the cavity was thoroughly cleansed with hot water, and the superficial structures closed with silk sutures. No nourishment of any kind was given for 48 hours, and then nutrient enemata only; on the 10th day liquid, and on the 20th solid foods were given by the stomach. The man was up on the 20th day, and left the hospital cured in the fifth week. The paper is supplemented by a table containing notes of all published cases of laparotomy for gunshot wound of abdomen up to date. These are 69 in number, with 27 recoveries and 41 deaths; under the old "do-nothing" system of treatment, less than 8 per cent. recovered.

Cerebral and Spinal Surgery.—This retrospect would be incomplete without a reference to the able paper read by Dr. W. Macewen at the Glasgow Meeting of the Association. The paper having appeared at length in the columns of the B. M. J., there is no need to enter into its details here. We were present at the meeting and were more than impressed by the display of brilliant cases which Dr. Macewen presented to his audience at the conclusion of his address. Dr. Macewen's paper will become historical. We venture to think that cerebral surgery at the present time owes its greatest debt to the skill, intelligence, and care of our Glasgow contemporary. Real advance and advantage must follow the publication of so masterly a contribution to professional literature.

Local News.

MR. JORDAN LLOYD, F.R.C.S., has been recently appointed Assessor in Anatomy at the 1st M.B. Examinations of the University of Durham.

NEW INVENTIONS, DRUGS, ETC.

TOILET LANOLINE.—We have pleasure in calling attention to Burroughs, Wellcome & Co.'s toilet lanoline. It is prepared by rubbing together lanoline and purified petroleum jelly, perfuming the combination slightly with otto of rose. Toilet lanoline has proved an admirable antiseptic application to the skin in cases of sunburn, chapping, wrinkling and minor blemishes of the skin. It possesses soothing and healing properties, and is an elegant preparation.

MESSRS. BURROUGHS, WELLCOME & Co. have received the "Grand Diploma of Honour" for their preparations shown at the Sanitary Exhibition now being held in Ostend.

New Books, etc., Received.

Therapeutics : its Principles and Practice. By H. C. WOOD, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Philadelphia. Seventh edition. London : Smith, Elder & Co. 1888.

A Text Book of Physiology. By M. FOSTER, M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge. Fifth edition. London : MacMillan, and Co. 1888.

British Pharmaceutical Conference. Unofficial Formulary, 1888. London : J. and A. Churchill. 1888.

The Mineral Waters and Baths of Ashby-de-la-Zouch. By CHARLES WILLIAMS, M.B., M.C. Ed. Ashby : J. Baker. 1888.

A Directory for the Dissection of the Human Body. By JOHN CLELAND, M.D., LL.D., F.R.S., Professor of Anatomy in the University of Glasgow. London : Smith, Elder, and Co. 1888.

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ORIGINAL COMMUNICATIONS.

ON INFLAMMATORY DISEASE IN THE
NEIGHBOURHOOD OF BUT UNCONNECTED WITH
JOINTS.*

BY T. H. BARTLEET, M.B., F.R.C.S.,
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I HESITATE in bringing before you, at the first meeting of the Session, a surgical paper which records no great surgical triumph. It may perhaps afford food for thought, and provide subject for discussion, and it is so far original that I have failed to find references to the subject in question in any surgical records. Indeed among many other reasons for bringing before you to-day the paper I have the honour of presenting, a chief reason is the desire of eliciting the opinions of my surgical colleagues, as to the diagnosis and treatment of what I consider to be an important, and at the same time a somewhat neglected class of surgical cases. Far be it from me to imply that the individual cases receive insufficient attention, what I *do* mean is that they are omitted, as far as I know, in surgical class books, and indeed have no place in surgical literature generally. In my reference to disease around, or external to joints, I only include inflammatory disease, that is I do not include malignant disease or exostosis or bursa or any other of the many surgical conditions that may exist

* Read at a Meeting of the Birmingham and Midland Counties Branch of the British Medical Association Oct. 11th, 1888.

in the neighbourhood of joints, what I *do* refer to is inflammatory disease around, or near to joints, but not affecting the interior of the joint, the synovial cavity or the cartilage, not in fine, what one calls arthritis.

However one might *technically* define a joint, *surgically* a joint consists of bones encrusted with cartilage, lined by synovial membrane, which contains a fluid, the bones held together by ligaments, surrounded usually by tendinous expansions of muscles, and covered by the usual cutaneous envelopments. In all these different structures we find results of disease in cases of destructive arthritis, changes well known to every surgeon. The deeper joints present at all events this difference, that they are often surrounded by muscles instead of by tendons. I must ask you to bear in mind this anatomical difference between superficial joints such as the ankle, elbow and knee, and the deeper joints such as the hip and shoulder. The symptoms of acute arthritis as occurring in, for example, the knee are too well known and need not be detailed; the cases are often of such gravity, and so frequently lead to operation, that they have received attention at the hands of most surgeons, special attention at the hands of very many. Disease *outside* the capsule of the joint has received little or no attention, though often deserving a great deal, since I think I shall show you by the relation of some cases that the diagnosis and treatment are alike important and difficult.

I must ask your forbearance if I do not make myself very intelligible; my classifications are new, and it is quite possible that better ones can be formulated. As I said before, we all recognise a typical case of arthritis of the knee, and I think we should all equally readily recognise a marked case of extra-articular inflammation. I remember two cases which occurred at the General Hospital while I was a student; a young girl was admitted for some trifling ailment, the house surgeon removed a small sebaceous tumour from over the patella; this slight operation was followed by suppuration all round the knee joint, which was accompanied by constitutional symptoms so severe

as to imperil the life of the patient. The oedema and redness of the skin, the swelling, not limited by the superficial area of the synovial sac, the fluctuation *over* the patella, led us to form the no doubt accurate opinion that the affection was extra-articular. A case which followed a like course, and which was due to a needle breaking in the patella, I need not relate in detail. Cases of suppuration, following teno-synovitis in front and behind the wrist, but affecting neither the wrist nor carpal joints are very common in hospital, and not uncommon in private practice. There are, however, cases much more obscure than any of these, not very frequent perhaps, but when occurring of the greatest importance alike to the patient whose limb may be sacrificed to an erroneous judgment, and to the surgeon whose reputation might be wrecked by a failure to discriminate a rare and obscure condition.

A few years ago I was summoned to Torquay to see the son of a gentleman with a view to amputating a foot at the ankle joint. I will briefly narrate the case. A young man, about 17 years of age, of delicate appearance, had some months before concussed his foot by jumping off a door-step; the injury was not sufficiently severe to induce great care, and in consequence synovitis of the ankle was set up, the foot became hot, swollen, and intensely painful, and at the same time great constitutional irritation was developed. High temperature at night, sweats and sleeplessness unless under the influence of morphia. He had been subjected to the ordinary treatment, local and general, the former including immobilization and the employment of a swing; ultimately the question of amputation was referred to me. On examining the youth's ankle I found swelling all round, that is over the front of the joint, on each side of the tendo Achillis, and under each malleolus. There was no swelling or fluctuation between the malleolus and the skin; the swelling around the ankle was semi-fluctuating, there was greatly increased heat of the ankle, which was most acutely sensitive to the slightest movement; the patient also complained of starting pains, there were no sinuses and there was no pointing of matter; there

were present all the local and general symptoms of destructive arthritis of the ankle joint, except such as can only be obtained by the probe or finger after the joint is opened.

Under an anæsthetic, I incised a prominent part of the tense swelling; pus to the amount of about two drachms escaped, but the tension over other parts of the swelling was not lessened. It was very evident that my incision had not tapped a general cavity such as that of an ankle joint. I at once perceived that there were other abscess sacs not communicating with the one I had opened by my first incision. I made several more incisions, each one setting free pus. I could not, however, through any incision I had made, traverse or indeed enter the joint. The operation was performed with Listerian precautions; the joint was put up on an anterior splint, and swung. All pain immediately disappeared, the constitutional irritation was heard nothing more of, the discharge gradually lessened and disappeared, and, after some months, the young man completely recovered with an ankle more or less stiff, but sufficiently useful to enable him to serve on board ship.

A similar case occurred shortly after in my hospital practice, the ankle again being the joint affected, and the result being equally satisfactory. Last year I had at the hospital an obscure case of suppuration about the knee joint, following an attack of blood poisoning. A careful examination discovered a painful and rather doughy spot about the size of an egg divided vertically on the front and outer surface of the outer condyle. A deep incision let out about two drachms of pus. On passing the finger into the wound, I found a patch of bare bone lying on the outer side of the condyle and continuing down to the posterior surface of the bone, occupying the surface between the lines leading from the linea aspera to the condyles. Considerable relief to constitutional symptoms followed the operation. The fact that a sinus remained caused no surprise, as exfoliation of the bared bone was expected. Subsequently other sinuses formed, and in process of time these were explored. No sequestrum, and, indeed, no bare bone was

discovered ; the sinuses were incised and drainage tubes passed through. Still, with every care, the wounds did not heal ; the pain and febrile condition continued and indeed increased, the limb became stiff, and the case seemed going from bad to worse ; and the patient being a member of our own profession, to whom even protracted illness was from special circumstances a matter of supreme importance, exceptional anxiety attached to the case. Another investigation was decided on. This again resulted in failure to detect dead bone or any connection with the knee joint. The sinuses were freely opened up, after a method I will presently describe, the limb was immobilized, and in process of time the sinuses healed, the stiffness of the joint disappeared, and the patient perfectly recovered, and, as a matter of fact, is at the present time enjoying a tricycle tour. I desire to express my thanks to my colleague, Mr. Haslam, for important assistance both in the operative and in the after treatment of this interesting and important case.

I will now briefly detail two cases of disease around deeper joints. Both are cases of disease in a chronic state ; indeed, had I seen them in their acute stage I know no way in which one could have come to the conclusion that the disease was outside instead of within the joint. A lady from the country came to my rooms a year ago with sinuses on the outside and front of the thigh, about four inches below Poupart's ligament. About a year and a half before, without any cause, a painful swelling had appeared above and in front of the trochanter, an incision freed some pus, a sinus resulted, which had been subjected, on two or three occasions, to surgical treatment of counter openings and insertion of drainage tubes, with subsequent more or less complete immobilization and, at all events, with the employment of such rest as could be obtained by prolonged confinement to bed. In this case there was no reason to apprehend implication of the hip joint—the case was one of suppuration around a deep joint. The difficulty was how to heal the sinuses, which, an investigation showed, coursed at their own free will in and out among the numerous small muscles

surrounding the acetabulum. The two or three surgical rules respecting treatment of sinuses, namely, to remove any cause of irritation, to slit up the sinuses, and to immobilize the part, were each and all difficult of application. The source of continued irritation was not a sequestrum or a diseased joint, but was due to the anatomical conditions, which locked up pus in some deep and hidden and somewhat unapproachable recess. To slit up the sinuses would have entailed incisions far and wide through important structures and almost equalling in extent those required for a flap amputation at the hip joint. To immobilize absolutely a limb surrounded by freely discharging sinuses was no easy matter. The procedure I carried out was this: I freely incised the skin opening of the sinuses, I then passed a finger deeply along one sinus and one separate diverticulum, if I may so term it, at a time, and doing this with great deliberation and care I hoped that I had not left any part untraversed, and while my finger was in each one I passed along it a strong forceps and forcibly stretched each sinus and each diverticulum from each sinus, so as to secure a free vent for any pus that might form, endeavouring to make the sinus as much like an open wound as the depth and the peculiar anatomical conditions would permit. The employment of stretching by forceps, after the well known procedure of Mr. Hilton for opening deep abscesses, appearing to me a safer plan than extending the sinuses by incision, since, had any small arterial branch been divided, its depth from the surface would have rendered any attempt to secure it an operation of great difficulty, while, had a branch of moderate size been partially divided, it would not have been safe to trust to plugging. In short, I preferred stretching to cutting in the dark.

I have at present under care, in the country, a youth with a sinus coursing round the shoulder joint. It is consequent to an abscess which was opened in the axilla, and which was apparently caused by the tear of a muscle or of the areolar tissue around a muscle, through an exceptional effort in throwing a cricket ball. In this case the old surgical procedure of slitting

up the sinus would entail the division certainly of the pectoralis mājor and possibly of the pectoralis minor also. I am at present temporising in the hope that the sinus will contract of itself. This I am bound to say it does not seem inclined to do, and, if necessary, I shall investigate the sinus, and if, as I anticipate, it is unconnected with dead bone as it certainly is unconnected with the shoulder joint, I shall, with every anticipation of a successful result, put into execution the manœuvre I have just described as having employed in the case of old-standing sinuses round the hip joint. I may mention that since writing this paper the lady with the hip sinuses presented herself at my rooms with the sinuses firmly healed and the movements and usefulness of the joint in no way impaired.

I am afraid the narration, though in brief, of the clinical details of these cases may have proved rather wearisome. It was however, in my opinion, necessary to the argument, so to speak, of my paper. In my experience in cases of destructive disease of joints, although upon the evacuation of pus the constitutional symptoms are much relieved, the pain is by no means relieved in equal proportion. I had under my care two years ago a lady with affection of the hip of an obscure nature, the most marked symptom of which was intense pain. There were no sinuses, and, indeed, I might say absolutely no physical signs of disease of the hip joint. Pain on the slightest movement was excruciating. Even the shaking of the bed caused by walking across the room induced cries. Examined under an anæsthetic, the joint was freely moveable in every direction. Some time after, an abscess was incised and one or more sinuses were formed, but the pain continued as severe as ever. Later in the history of the case an exploratory operation discovered a sequestrum consisting of the entire head of the femur. I have related this case to show the antithesis especially as regards pain between a case of intra- and a case of extra-articular disease.

I now come to the most difficult part of the duty I have undertaken, viz., to unravel the somewhat tangled threads of

my clinical reports, and to endeavour to classify the symptoms and to formulate rules for diagnosis, especially for differential diagnosis, and for treatment. In the first place I divide cases of peri-articular disease into two classes. These two classes have one condition in common, in that each is an inflammatory condition round, but external to a joint. In almost every other respect they differ from one another. These two classes are : 1. Inflammation outside a superficial joint—for example, the knee and ankle ; 2. the same condition outside a deep joint, such as the hip or shoulder. In each of these classes the suppuration may be either in an acute condition and without the existence of sinuses, or it may be in a more or less chronic condition, after the formation of sinuses.

The chief importance in these cases, as well as the chief difficulty, is the differential diagnosis between intra- and extra-articular disease ; how is this to be decided with any degree of certainty ? In acute inflammation at a deep-seated joint like the hip I think a certain diagnosis is impossible ; it is in such a situation of less importance than in cases affecting superficial joints, in as much as in these latter cases an incision might easily, might even intentionally, penetrate the joint, a contingency which would not occur in a deep joint where a collection of matter would not be likely to be incised until it had so far approached the surface as to prevent any risk of the joint being penetrated by the knife of the surgeon. I need not recapitulate the many symptoms common to intra- and extra-articular suppuration. Are there any symptoms that enable us to differentiate the two affections ? I think there are. When a suppurating joint is incised, the incision—striking, so to speak, a single cavity filled with pus—allows of a tolerably complete emptying of such cavity, and pressure on the side of the joint opposite to the incision will cause pus to exude more quickly. If, on the other hand, the pus be outside the joint in the sheaths of tendons surrounding the joint, or in bursae, the incision will relieve tension only in a limited area, the tension in other parts will not be relieved, and pressure upon such parts will not empty

them, and at the same time will not materially increase the flow of pus either as regards quantity or rapidity through the incision. —I think this a most important point in the differential diagnosis. A symptom I had expected to be reliable in diagnosis, the existence of starting pains, which is a clinical symptom almost held to be pathognomonic of the presence of ulceration of cartilage in joint disease, I have not found absolutely reliable. I believe this symptom may exist without that condition of necessity existing, especially in those conditions of peri-articular suppuration where the sheaths of the tendons are the parts affected; it was a marked symptom in the case I related of disease of the ankle joint, where the progress of the case I think satisfactorily proved that the joint itself was not implicated.

In cases of acute disease around joints, where the joint itself is not implicated in the disease, I have noticed that the pus being once evacuated, either by the natural process of bursting or by incision, the pain at once almost completely disappears, while in cases of joint disease, although there may, under these circumstances, be a great alleviation of constitutional irritation and a considerable alleviation of suffering, pain will still remain a prominent symptom, and those starting pains which should disappear if the disease be limited to the exterior of the joint will still continue a great source of distress to the patient. This absence of pain after the evacuation of pus was very marked in all the cases that have come under my notice, and I think deserves considerable attention, and indeed may be held as reliable as differentiating between intra- and extra-articular conditions. I have at present under my care a man with what I diagnose as peri-articular inflammation of the knee. There is stiffness of the limb with long-standing sinuses, but the joint may be handled and shaken without causing pain, a condition which would I think be impossible if the joint were involved. Briefly stated, sinuses around a joint associated with severe pain, especially with starting pains, indicate articular disease. This is no new surgical dogma, but I believe the converse is equally true, though I think not as frequently recognised, *that sinuses*

around a joint where there is an unusual absence of pain indicate, or at least suggest, a strong probability of the disease being limited to the exterior of the joint.

I now propose to say a few words on the treatment of these somewhat rare and obscure conditions. First, with regard to the cases of an acute nature. I know of no way in which we can assure ourselves that inflammations ending in suppuration around deep joints are limited to the exterior of the articulation. I have therefore nothing special to suggest with regard to their treatment, that is in the early or acute stage. We must wait until the presence of pus is fully assured and then evacuate it. It would not be safe to do as we do in cases of periostitis, that is incise as early as possible, even before we are quite certain of the presence of pus. An incision under such circumstances can do very little harm and may do great good by limiting the stripping of the periosteum and the subsequent death of bone, but in peri-articular inflammation of a deep joint the danger of penetrating the joint, or even of opening up layers of muscles hitherto not involved would, I think, forbid such surgical interference. I think, however, that the progress of the case should be jealously watched and pus set free at the earliest possible date that its existence can be determined, as by this course, if the disease should turn out to be peri-articular only there will be much less burrowing between the intermuscular planes and, while the ordinary advantage of limiting the duration of the febrile condition and the size of the abscess cavity will be secured, we shall also attain, or at all events do our best to attain, the limitation of the extent of the number, of the length, and (if you will excuse the word) the sinuosity or tortuosity of the sinuses that may remain, indeed an early incision *might* prevent the formation of a troublesome sinus altogether. The abscess might, and under such treatment would be placed in the most favorable condition to heal without giving much trouble to the patient or entailing upon the surgeon the necessity of any future surgical proceedings. But unfortunately these cases rarely come under our notice in time for our art to attempt to avert these serious contingences.

There is a foolish but prevalent popular notion, one almost universal amongst the poor, that abscesses should not be opened until they are *ripe*, and that nature is the best surgeon; that if allowed to evacuate themselves there will be an end to the business, but if they are evacuated by the knife of the surgeon the patient is doomed to a persistence of gatherings, in that or some other part; or will be visited by some dire disease, from the matter which should have accumulated at its original home having *flown about* him. I say this popular but most dangerous prejudice rarely allows the case to fall under the notice of a surgeon until all the damage that delay can effect—and in few cases can delay effect greater damage—has been accomplished; and when the case comes under our notice, *possibly*, I might almost say *probably*, after the discharging sinuses have existed for months if not years, we shall find that we have to treat a case which will tax all the resources of our art, even if we find the disease limited to the exterior of the joint near which the sinuses lie.

I will now shortly explain the principles and describe the procédé of the treatment I propose for sinuses around but unconnected with joints. I have explained already why such sinuses are not amenable to the treatment of similar conditions elsewhere, as, for example, in connection with the breast. The principle of the treatment I suggest is really only a modification of what I may call the conventional treatment of sinuses. As circumstances prevent our converting a narrow sinus into an open wound, I endeavour to convert it into a wound as open as conditions and circumstances will allow. My object is to convert the narrow, tortuous sinus into a straight, conical wound, or, at all events, into a wound as straight and as conical as I can. I therefore make a free incision through the mouth of the sinus, in most cases to the length of two inches. Through this I pass my finger into the sinus, thereby dilating and stretching it. I endeavour to penetrate to the extreme end of the sinus and into any diverticula that may be present. I am often able to lessen the number of tracks by forcibly tearing by the finger one into another. Whenever I can I secure the

advantage of a counter opening, but failing this, I am not discouraged, but proceed with deliberation and extreme care to carry out the principle I have enunciated, viz., of making the track assume the shape of *an inverted cone*, the apex being the blind end, the base being the incision through the mouth of the sinus. I would however desire to impress upon you, as necessary to ensure success, that every diverticulum must be treated in the same way and with the same care as the chief sinus. It commonly happens that dilatation with the finger is sufficient. It occasionally occurs that at some part, possibly a deep part, of the sinus a dense unyielding band is felt upon which the finger makes no trace. To leave this would be to jeopardise the success of the operation. The free egress of pus would be prevented, accumulation would occur, and the sinus would not contract and heal. This band must be divided; and as it cannot be attacked with safety by the knife, from its depth and its surroundings, it is best disposed of by being forcibly stretched by forceps. These are passed along the wound closed, and then opened and forcibly withdrawn. There is often free hemorrhage from this procedure, but I have never seen it such as to give cause for any anxiety, and it is readily arrested by pressure or by plugging the wound. The limb is lightly dressed, care being taken that the dressing in no way impedes the egress of the discharge. For this reason picked oakum, which is very absorbent, constitutes a very good dressing.

I omitted to say in my description of the operative procedure that it is advisable to scrape well the walls of the sinus throughout, so as to remove as completely as possible all granulation tissue. The operation and dressing completed, the limb should be immobilized, if possible *absolutely*, but failing this, as completely as possible. For example: A hip, to which a starch or plaster case could not be conveniently applied because of the discharge, should be supported by sand-bags from the hip to the ankle, and should further be steadied by sand-bags, or supported by weight and pulley, or be slung.

I think it well to briefly epitomise this somewhat discursive paper. I claim the existence of cases of peri-articular disease. I divide them into two classes as occurring in superficial and in deep joints. I know of no means of differentiating with certainty between intra- and extra-articular disease in deep joints in the acute stage. In superficial joints, before the occurrence of sinuses the peculiar phenomena I describe as occurring in opening the abscess are an important aid to diagnosis, while the remarkable absence of pain after the spontaneous or surgical evacuation of pus, strongly suggests the presence of disease outside the joint only. On this account I emphasize the necessity of extreme caution in opening doubtful abscesses near joints.

Finally, I hope and believe the manœuvre I have described in treating sinuses around but unconnected with the deep joints, and which I might term the *conisation* of sinuses, may be a real help in the surgical treatment of a very troublesome and hitherto a very unsatisfactory class of cases.

PRACTICAL OBSERVATIONS ON CHRONIC HEART DISEASE.

BY ALFRED H. CARTER, M.D. LOND., M.R.C.P.,
PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

(Continued from page 150.)

IF we turn our attention to the course of chronic cardiac disease we also cannot fail to be struck with the general uniformity by which it is characterised, independently of its precise pathological nature. The differences which occur are mainly related to the primary localisation of the trouble on the left or right side of the heart, and the vital potentiality of the heart-muscle.

In the first instance the troubles are chiefly of a physical kind. Thus, the heart is imperfectly emptied, and accordingly, the arteries are imperfectly filled, the veins are over-filled, and the circulation as a whole is retarded. When the source of disturbance is confined to the left heart, as happens in a majority

of cases, the vascular over-fulness first involves the lesser circulation, and gives rise to breathlessness. This, however, as a rule, is quickly compensated by hypertrophy and consequent additional vigour on the part of the right heart, and all symptoms subside—for the time at least ; and under no circumstances does the general health directly suffer. On the failure of compensation the former troubles reappear ; and though under appropriate treatment compensation may again be established, it is usually less stable with each recurrence. At last the difficulty for which compensation is needed exceeds the compensating capacity of the right heart, the vascular over-fulness extends to the systemic veins, and the case enters upon the second stage. When the primary disturbance is localised in the right heart, or when compensating hypertrophy is impossible, either by reason of the feeble vitality of the heart or the magnitude of the defect to be overcome, the progress is much more rapid, for it at once enters upon the second stage.

The second stage, like the first, is characterised by vascular engorgement, but its special feature consists of a series of grave functional disorders resulting from congestion of the organs concerned, disorders of digestion, of absorption, of assimilation, of blood-making, of secretion, and of elimination. It is easy to see how such functional disorder must affect the health, vigour, and vitality of the whole system ; and it is this general impairment of health, superadded to mere physical disturbance of the circulation, which is the leading characteristic of the stage of chronic cardiac disease now under consideration.

Assuming that compensation is still possible, we find in the facts just mentioned good reason why it should be more difficult to attain and to maintain than at any earlier period in the case. The liver is generally the first organ to suffer, not—as some have curiously asserted—because of the close proximity of the hepatic vein to the right auricle. Such an explanation is opposed to elementary physical principles. It is because the blood-pressure is lower in the hepatic veins than in any other part of the systemic vascular system, on account of the blood

with which they are filled having passed through a double set of capillaries. Backward pressure naturally produces its first and most marked effects where the forward pressure is weakest, namely, in the liver and the dependent lower limbs.

Sooner or later, a third stage is entered upon, which is characterised by the superaddition to previous troubles of permanent structural changes in various organs from prolonged congestion, notably in the liver and kidneys.

The fourth and last stage is manifested by general cachexia from long-standing interference with important vital functions, and, anatomically, by degenerations in the various tissues and organs of the body—notably in the muscular tissue generally and that of the heart in particular. Thus we observe an ascending scale of trouble :—(1) physical disturbance only ; (2) physical disturbance + disorder of organic function ; (3) physical disturbance + disorder of organic function + structural disease ; and (4) physical disturbance + disorder of organic function + structural disease + general cachexia and degeneration.

I will now proceed to briefly indicate some of the more important principles of treatment. So long as compensation is fairly maintained, no treatment is required ; in fact, advice is rarely sought at this time, and the condition only comes under observation accidentally, as in examination for life assurance. And while the circumstances are favourable it is astonishing how long this state of functional equilibrium may be maintained. For instance : A man, P. H., aged 65, was admitted into the Queen's Hospital in May last year with all the symptoms of "failing compensation" in connection with simple "mitral regurgitation." These symptoms began about a year previously, and were proximately attributable to personal neglect from poverty. But up to that time he never suffered one day's illness since an attack of rheumatic fever thirty years before, in the course of which it was practically certain that he first contracted his mitral disorder. A right interpretation of compensatory hypertrophy, as salutary rather than morbid, as a

condition to be encouraged rather than to be repressed, marks one of the most important advances with regard to chronic heart disease during the last quarter of a century.

Assuming that compensation fails, symptoms at once begin to appear which call for active and careful treatment. Here is an opportunity for the further advance in our therapeutic management of such cases for which Dr. Bruce so forcibly argues in the paper to which I have referred. I allude to the necessity of a careful enquiry in every case as to the special cause of the failure, with a view to its correction or removal.

If we recall for a moment the various causes of cardiac failure which have been already enumerated, it is obvious what a large therapeutic field is opened up. Some of the causes referred to are readily accessible and removable, others only partially so, while the remainder are beyond our control. How important it must be to rest a heart that has been over-worked, to feed a heart that has been starved, to soothe a heart that has been worried, to enjoin rigid teetotalism in those addicted to drink, to strictly interdict the use of tobacco in any form in those who have been depressed by resorting to it in excess, to adjust the diet in those who have been pampered and habitually overfed, and so on. It may be all very well to put a cardiac patient to bed, but rest alone does not meet the requirements of more than a certain proportion of cases. It may be all very well to administer digitalis and iron; but what chance have these valuable drugs, so long as the proximate cause of cardiac failure is permitted to continue in operation. Here is a case in point:—An elderly woman with a history of bronchitis recurring each winter recently came under my notice, with all the usual symptoms of "cardiac failure"—palpitation, irregularity, breathlessness, cyanosis, &c. The failure here was obviously in the right heart, and etiologically related to mechanical difficulty in the pulmonary circulation from bronchitis and secondary emphysema. She rallied well under appropriate treatment, and was about to be regarded as convalescent, when she again caught cold, another attack of bronchitis followed, and while

under actual observation all the signs of "cardiac failure" returned. In my absence she had been put on digitalis and iron and kept to her bed, but when I saw her two days after, the symptoms had not been relieved. Ammonia, strychnia, and cinchona were substituted for the previous mixture, turpentine liniment was energetically rubbed into the chest night and morning, the feet were immersed in hot mustard and water, and in 24 hours all the more troublesome symptoms were relieved. A few days later she was put on a mixture of tinct. ferri. acetatis, strychnia, and ether, and rapidly convalesced. Here we see that the cardiac interests were best considered by addressing the treatment exclusively to the obvious proximate cause of the failure, namely, the bronchial catarrh; and no specific cardiac remedies were needed.

In the early stages of cardiac failure, then, our primary duty is to attend to the etiological indication. At the same time our object should be to reduce the demands upon the physical powers of the heart to a minimum by rest in the recumbent posture, always, however, bearing in mind that it is only a means towards the attainment of a circulatory equilibrium, and that as soon as this is realised, further rest will only tend to weaken the system, and with it the heart also. The time has then arrived for graduated exercise. These are the primary indications for treatment in the earlier stages. Of the subordinate indications, important as they are, I do not propose now to speak. Suffice it to say that it is at this period that heart-tonics, such as digitalis, strophanthus, caffeine, iron, and arsenic are invaluable *adjuvants*. They are good servants but bad masters; and, in my opinion, there is a tendency to resort to them too indiscriminately, and to expect from them far more than they are able to afford.

The special features of the second stage—namely, the overloading of the tissues with fluid, and the turgid state of the systemic veins—provide a new indication for treatment; for so long as there is marked engorgement of the right heart, the course of treatment, which sufficed in the early stage, is now

unequal to the occasion. This indication is *to reduce the fluids of the body*. If the condition is recent, a brisk hydragogue purge will often answer admirably. After such a purgative, digitalis will frequently act well when it had entirely failed before. In other cases, acupuncture of the swollen legs and withdrawal of fluid may be required. Periodical diaphoresis, too, is often most advantageous, and is most conveniently carried out by hypodermic injection of pilocarpine. It is a drug, however, that needs to be handled with caution and discrimination, especially where the circulation is very feeble. In a really urgent case, with the same object in view, venæ-section may even be practised; but it is obviously a two edged weapon, and should not be resorted to except in extremity.

Such are the means of temporarily and quickly reducing the fluids of the body. But, in order to maintain the advantage, it is necessary to restrict the amount of fluids ingested. Oertel, in his recent remarkable contribution to Ziemssen's *Encyclopædia of Therapeutics*, has dealt clearly and fully with this subject, to which he attaches the very greatest importance, as a means of establishing hydraulic equilibrium in this stage of cardiac disease. With a little patience and tact, the total amount of fluids ingested in twenty-four hours may be brought down to one and a half pints, and even less. These measures are more likely to be successful the earlier they are brought into operation. After the congestive stage has lasted a long time, the general health becomes so much impaired that reaction from the morbid disturbance which has become established becomes increasingly difficult. How important then it is to recognise the pathological bearings of the situation as early as possible, so that valuable time may not be lost.

This brings us to the turning-point in prognosis and treatment. When once secondary structural organic disease has begun, and *a fortiori* if degenerative changes are considerable, treatment can only be palliative, and mainly consists of avoidance from undue exertion, gentle but systematic massage to keep up tissue nutrition, good nutritious food, abstinence from alcohol except

for digestive purposes, and tonic remedies such as iron, strychnia, and arsenic.

On the other hand, if the congestive troubles can be checked, and a temporary hydraulic equilibrium has been attained, the time has come to train up the heart, and to encourage development of cardiac power by carefully graduated exercise. The chief precautions to be observed are these :—(1) not to attempt it until circulatory equilibrium has been established for the patient in a state of rest ; (2) to be moderate in the first instance ; (3) to be increased gradually and with care ; and (4) always to stop short of fatigue ; moderate palpitation and oppression of breathing on beginning the treatment need not be seriously regarded ; but any tendency to syncope or cardiac irregularity constitute distinct contra-indication.

CORRECTION.

[Dr. Stacey Wilson desires to correct a statement in his paper on "Dilution of the Blood" in the September issue of the Review. He is informed that the method of treating diarrhoea in children by means of iced water enemata was in use in the out-patient practice of the General Hospital for several years prior to the date of its introduction as mentioned in the paper, having been adopted by Dr. Saundby shortly after its origination by Professor C. A. Ewald of Berlin.]

REVIEWS.

ON GONORRHOEAL INFECTION IN WOMEN.*

THIS is a most able and interesting book, eminently readable and conveying in concise and well-chosen manner, an exhaustive account of all the chief modern work on the subject of gonorrhoea.

* On Gonorrhoeal Infection in Women. By William Japp Sinclair, M.A., M.D. London : H. K. Lewis, 136, Gower Street, W.C. 1888.

While the author plainly avows himself a disciple of Noeggerrath and Neisser, accepting in the main the theory of the former as regards latent gonorrhœa, and the conclusions of the latter regarding the gonococcus, the book is written in no partisan spirit. The whole modern literature of the subject is fairly taken into consideration and, with commendable scientific impartiality, not a little has been reviewed which may tell against some of the conclusions to which the author arrives. These are not definitely tabulated, but we think the reader may be justified in assuming that the following propositions contain the main doctrines accepted by the author.

1. That gonorrhœa arises from the gonococcus—"without the gonococcus—no gonorrhœa ; without gonorrhœa—no gonococcus." (p. 69).

2. That gonorrhœa in the female is exceedingly apt to cause pelvic inflammation of a special type, "recurrent perimetritis."

3. That in most men, after an attack of gonorrhœa, a latent form persists, due to imperfect cure, although no gonococci may be found. (According to Noeggerrath, who is the author of this view, gonorrhœa is a life-disease and is never cured.*)

4. That a chronic or creeping form of gonorrhœa exists in women, due to infection from a "latent" gonorrhœal source—that the symptoms of this are leucorrhœa, dysmenorrhœa, menorrhagia, and vague pelvic pains and indurations, varying from doubtfully abnormal conditions up to chronic pyo-salpinx.

Now it will be evident to anyone who candidly examines these propositions that the questions involved in 3 and 4 have no special bearing on those in 1 and 2. Not only so, but the acceptance of all may most naturally and reasonably be held to involve a contradiction or inconsistency. For if there is no gonorrhœa without the gonococcus, how can there be the grave danger involved in latent forms where no gonococcus can be found? We consequently find the author and those writers who agree with him reduced to the necessity of forming the

* This opinion is stated to have undergone some modification and change. (p. 41.)

following hypotheses to account for the reasonableness of such a dual belief.

(a) That a few rare and "decrepid" gonococci are started into vigour by post-nuptial excess (p. 95).

(b) That though the gonococcus has gone and can nowhere be found, some spores, as granules or débris, are left as permanent causes of contagion (p. 98).

Probably everyone will assent to the actively contagious nature of gonorrhœa, and, in women, to the damage it involves of acute endometritis, acute pyosalpinx, and recurrent peritonitis, with chronic inflammatory disease of the uterine appendages. But it is by no means certain that the sources of contagion (whether "gonococcus" or not) has not a life and *death* history in the human organism, and that although the adhesions consequent on repeated attacks of limited peritonitis may possibly persist throughout life, the infective gonorrhœa may after a time become perfectly cured.

Both the arguments and evidence in favour of this view are quite as strong at present as those which can be brought forward in favour of the opposite view. The cases cited by Dr. Sinclair and others as examples of chronic and creeping and persistent forms of gonorrhœa are by no means conclusive, and much more investigation is needed before these later developments of doctrine can be generally accepted. That in the study of so widespread a disease as gonorrhœa there may be a decided danger of forming hasty and extravagant conclusions, is occasionally shown in some passages from the work before us. On page 79 we read:—"The question arises whether the cases of isolated tubal tuberculosis are not due to an old tubal gonorrhœa." Tubal tuberculosis has been found in the virgin, as also pyosalpinx. The inflammatory condition of the uterine appendages have been found as a consequence of the infective diseases of scarlatina and smallpox, and it would be grossly unjust if patients of these classes were indiscriminately set down as the victims of some form of gonorrhœal disease.

It must not, however, be supposed that the intention of the

present writer is to minimise the dangers of gonorrhoea in women. If the Fallopian tubes are thoroughly attacked by the disease there can be no doubt that the prognosis is grave, and the results of the disease in many cases incurable except by operation. But in these cases, if the facts were fully known, there is probably always a clear and indubitable history of direct contagion. One possible source of fallacy in the investigation of the subject of gonorrhoea lies in the assumption that after marriage the husband and wife have lived a strictly moral life whatever their antecedents may have been.

Unfortunately this is far from being correct. A man who has had repeated attacks of gonorrhoea may, subsequent to marriage, expose himself to contagion and, at the close of a very transient attack of three or four days duration, may infect his wife. Is he questioned on the subject? He may confess to an acute attack a year or so before his marriage, but not to his recent transgression. On the other hand, there is abundant evidence similar to that collected by Dr. Thorburn (and referred to on page 45), that a man may contract a gonorrhoea, may recover from this, and, provided he leads a virtuous life, his subsequent marriage may be healthy, happy, and fruitful.

If this be true, the cure of gonorrhoea becomes of the more rather than of the less importance. Instead of the vague and hopeless ideas involved in the belief of its latency and incurability—ideas which tend to paralyse all but operative action—earnest enquiries will be made into the relative value of the gonococcus and the “débris,” into overlooked sources of contagion, into best methods of treatment, and into the several indications of recovery.

These are likely to be fruitful in good results. The author's views on the subject of treatment are given in chap. vi., and his method of uterine injection or irrigation may be worthy of trial in suitable cases. As he recognises (on p. 157), it is dangerous in cases where the disease has spread beyond the uterus.

Considering the exhaustive character of the work it is rather surprising that the only reference to gonorrheal rheumatism is on page 53.

A thorough investigation of the phenomena involved in this complaint and the character of the fluid effused into the joints would probably be more likely than anything else to clear up the doubtful points regarding latency and chronicity.

ON THE TREATMENT OF RUPTURE OF THE FEMALE PERINEUM.*

DR. Bantock has published a second edition of his work on the treatment of rupture of the perineum. The main substance of the book having been written ten years ago is rather out of touch with modern thought. The scientific world moves apace, and to read of the "quilled suture" from a controversial point of view is almost like listening to an argument for steam locomotion or Free Trade. In the description of the "remote" operation, which is supposed to be fully brought up to date, we cannot but think that Dr. Bantock would have done better to have had totally fresh illustrations. Anyone following religiously the directions according to fig. 9 might perhaps succeed in making a linear bridge between the rectum and vagina, but could hardly hope to effect the restoration of anything like a normal perineum. Dr. Bantock describes in his text a flap-splitting operation; his illustrations are for a denuding operation. The result is not quite satisfactory. And if, as appears from recent correspondence, the merit of the idea of flap-splitting belongs to the late Mr. Maurice H. Collis, and its adaptation to perineal operations to Mr. Tait, some recognition of these things might naturally have been expected.

There is a vast amount of literature, both European and American, on the subject of perineal laceration and its cure. We are afraid that the whole of it is not of very great value. The operative treatment cannot be satisfactorily taught either by text or illustration; at all events no one up to the present has succeeded in making the subject clear and intelligible for all

* On the Treatment of Rupture of the Female Perineum. By George Granville Bantock, M.D., F.R.C.S., Edin. Second edition. London: H. K. Lewis, 136, Gower Street, W.C., 1888.

conditions and degrees. A little practical work soon makes the subject quite simple to the operating surgeon, and there can be but little doubt that the pure flap-splitting operation (without special rectal and vaginal sutures) is better than the somewhat hybrid method described by our author.

ON CANCER OF THE UTERUS.*

THIS book is a reprint of the Harveian Lectures for 1886, together with the illustrations which were shown at the lectures but have not hitherto been published.

Dr. Williams divides his subject into three parts—1, Cancer of the Portio Vaginalis; 2, Cancer of the Cervix; 3, Cancer of the Body of the Uterus.

Under the first head, eight cases are narrated; under the second, nineteen cases; and under the third, seven cases. These are copiously illustrated by plates, the drawing of which leaves nothing to be desired. The interest of these lies mainly—and necessarily—in the minute pathology of the disease, and can only be satisfactorily criticised by those who have devoted special attention to this branch of the subject.

Under the head of treatment the author advises simple amputation for cancer of the vaginal portion, and the supra-vaginal amputation for cancer of the cervix. He would restrict extirpation of the uterus to cancer of the body of the uterus.

On some points respecting which there is great diversity of opinion, it may be well to reproduce the author's own words.

"The starting point of cancer of the cervix is, in so far as I have seen, the cervical glands. I have seen no clear instance in which the disease originated in the epithelium of the surface."
(p. 73.)

"It appears to me that the facts at present known, tend to show that lacerations play no part in the causation of cancer of the uterus." (p. 81.)

* On Cancer of the Uterus. By John Williams, M.D., F.R.C.P.
London: H. K. Lewis, 136, Gower Street, W.C. 1888.

A PRACTICAL TEXT-BOOK OF THE DISEASES OF
WOMEN.*

EVERY stranger who has visited Paris will probably have vivid and, for the most part, grateful recollections of an illustrated map called the "Nouveau Paris Monumental." What this map does for the stranger in Paris the hand-book of Dr. Lewers may be said to do for the student in gynæcology; for it is a striking and not unsuccessful attempt to combine the conciseness of a chart with occasional luxuriant descriptions of cases, or of special points in operative, clinical, or pathological teaching which are evidently favourite topics with the writer. The limitation which this method and the size of the book necessarily involve are at once the source of its strength and weakness. Its strength, because much of it is the outcome of earnest belief and practice; its weakness, because many diseases and methods of treatment are practically unnoticed or very inadequately described.

The advocacy of Hegar's dilators and the supra-vaginal amputation, the diagram illustrating the relative position of the ureters and cervix, the incorporation of some of the work of Matthews Duncan on parametritis and sterility, and of Dr. Williams on the uterine circulation, with the diagrams illustrating this on pp. 348 and 349, are all special and excellent features of the work. The chapter on flexions and versions opens well with the Schultze diagram of the normal position. It is a pity that Schultze's teaching with regard to the action of pessaries is not followed as closely. To write of a "fulcrum" in describing the action of a Hodge is inaccurate, misleading, and out of date.

Perhaps the least satisfactory portions of the book are those which treat of abdominal surgery and the knowledge of disease derived from this work. No mention is made of tuberculosis of the tubes, and the author hardly seems to be acquainted with

* A Practical Text-Book on the Diseases of Women. By Arthur H. N. Lewers, M.D., Lond. London: H. K. Lewis, 136, Gower Street, W.C. 1888.

acute pyosalpinx—a very different disease to the chronic affections of the tubes, which are treated of in chap. xiii. Under the head of hæmatocele, both varieties (intra and extra-peritoneal) are described alternately as regards morbid anatomy, symptoms, and diagnosis in a way that is not conducive to clear thought or distinct memory, and it would be a decided improvement to treat them separately. On p. 273 we read the following:—"When the blood is effused into the peritoneal cavity it gravitates into Douglas's pouch and *coagulates*; in twenty-four hours the coagulum has become enclosed by adhesive peritonitis." Anyone who has opened the abdomen for hæmorrhage will know how imperfect such a description is. It may be approximately correct for a limited hæmorrhage, but the acute affection is practically ignored.

No mention appears to be made of the most frequent cause of extra-peritoneal hæmatocele, which is menstrual congestion subsequent to operations involving the broad ligaments. This is important, and should be known by the medical practitioner of our times.

But in spite of these faults the book is a good one and will probably be appreciated by many. It is a small book, and this is a pleasing feature to the wistful gaze of the examination-dreading student. But will Dr. Lewers be able to keep it so?

SURGICAL APPLIED ANATOMY.*

TREVES' book is one of the best known of Cassell's manuals, and has run quickly into its third edition. No better proof could be supplied of the estimation in which the volume is held. In the present edition the work has been carefully revised throughout, many sections have been entirely re-written, and much new matter has been added. Every effort has been made to bring each chapter up to date.

* Surgical Applied Anatomy. By Frederick Treves, F.R.C.S., Surgeon to the Lecturer on Anatomy at the London Hospital. Illustrated; third edition. London: Cassell & Co. 1888.

THE PRINCIPLES OF CANCER AND TUMOUR
FORMATION.

THIS volume is presented "as an introduction to a contemplated treatise on the Pathology and Treatment of Cancer and Tumour Formation," five other parts being promised to complete the work, so it will be realised that the author has undertaken an ambitious task and one which may well exceed the scientific and clinical attainments of any individual observer. The present volume is devoted to a study of tumour formation from the evolutionary stand point, the argument being divided into five chapters: on Growth, Reproduction, the Evolution of Vegetable Neoplasms, the Evolution of Animal Neoplasms, and *Ætiology*.

It is impossible in the limits of a brief review to discuss at length a book which it is obvious demands close criticism, as only an indication of some of the prominent features can be given here. In the first chapter, growth is considered as it is exhibited in crystals, in the vegetable, and in the animal cell, the opinion being expressed that "the tendency of modern science is to break down the partition between the organic and the inorganic; and to shew that both are governed by the operation of forces, which are the same in kind, though differently compounded," but at the same time it is acknowledged that "when crystals are dissolved and re-crystallized the same forms are reproduced again and again, but the combinations which determine organic forms, repeat themselves hereditarily and at the same time they undergo change." "Heredity is the cause of the stability of organisms, and adaptation of their modification." At p. 19, occurs the following, "Blood and lymph vessels and nerves have not the slightest *direct* influence on the processes of growth. These are only of importance in so far as they regulate the supply of nutriment, etc. In plants, the early embryo and the lowest animals, all the phenomena of growth go on without them." In those organisms where a nervous system has not been traced, no doubt this is true, but it does not follow that it

* The Principles of Cancer and Tumour Formation. By W. Roger Williams, F.R.C.S. London: John Bate and Sons.

is equally true when there is a higher state of differentiation of tissues, and it seems to us contrary to a considerable amount of evidence as to the direct effect of nerves on the nutrition of the tissues of the higher animals, and on some of their glandular secretions.

In the chapter on reproduction we find "the study of reproduction and its laws is, therefore, an essential preliminary to the study of the ætiology of cancerous tumour formations. It is the physiological prototype of these pathological processes." The methods and details of cell production are then described at some length, but we doubt if there is yet sufficient evidence to justify the statement that all animal and vegetable cells originate by karyokinesis. One of the most important ideas formulated is as follows, p. 44: "In the course of development from originally like units (blastomeres), as the process of division and differentiation proceeds, many cells acquire special functions, and much of the original protoplasm is used up and converted into special tissues. In proportion as the cells are thus specialized, we may infer they lose their primitive general functions. Thus their power of reproducing the whole organism may be greatly reduced or altogether lost, owing to all or the greater part of the original protoplasms being specialized and used up. But in the higher organisms certain cells never attain a high degree of development; they remain in a lowly organised condition, and serve, according as they are more or less *unspecialised*, either as germs for reproducing the entire individual or for forming and maintaining the various tissues and organs. Such cells are found in all growing parts; they are *the only real cancer and tumour germs*, as I shall hereafter shew."

The chapter on the evolution of vegetable neoplasms is perhaps the most original of all, and embodies to a great extent the material brought by Mr. Williams before the Pathological Society some two years ago.

In chapter iv. neoplasms are classified according to the division of the germinal layers suggested by His into archiblastic and parablastic, not on the ground of the correctness of His's subdivision, but because "it is perfectly natural and convenient."

The archiblastic group corresponds to those generally ascribed to epi and hypo-blast ; the parablastic to that derived from meso-blast. Mr. Williams has evidently no belief in the presence of micro-organisms as the cause of malignant tumours, for at page 140 he remarks, "Malignancy then depends upon the indefinitely sustained activity of lowly organised cells, which grow and multiply independently, without ever reaching a high grade of organisation. To such causes I attribute the distinctions between malignant and non-malignant neoplasms, and not to any essential difference in the nature of the morbid process. Viewing the matter in this light, I can see no probability of there being any truth in the theory that malignant neoplasms are the outcome of general blood disease, due to the pressure of micro-organisms, like tubercle and syphilis : cancer cannot be inoculated, and it is not contagious. Its infectiveness is due to the autonomous power of its constituent cells, which everywhere tend to reproduce the parental type ; whereas the lesions of phthisis and syphilis are inflammatory products, caused by the intrusion of foreign germs ab-extra. The agency of micro-organisms is no more necessary to account for the phenomena of cancer and tumour formation than it is to account for the development of a tooth or a hair." We think, however, that it is doubtful whether it is justifiable to say that "Cancer cannot be inoculated, and it is not contagious." The difficulty of experimental inoculation, under suitable conditions, is so great that a complete investigation has never been possible, and there certainly is some clinical evidence that cancer is contagious.

The remarks on ætiology call for little notice, but it may be observed that they are to a great extent corollaries of what has gone before. One statement on page 192 can however hardly go unchallenged, where the author states that "in animal tissues we have no certain evidence that *external stimuli* can ever excite their cells to proliferation ; *they appear to cause only inflammation.*"

In conclusion, we think that Mr. Williams has done well to embody his arguments in their present form, and we look forward with interest to his future communications.

A DIRECTORY FOR THE DISSECTION OF THE HUMAN BODY.*

CLELAND's Directory has been so long and favourably known that there is little left to be said about it on the appearance of a new edition. Every school has its own traditions concerning the best method for displaying the structures in certain parts of the body, and those in the book under review in some cases are different from the plans in vogue elsewhere, but it may safely be said that the student who pursues Professor Cleland's directions carefully will not find that he has missed much by the time that he arrives at the end of his anatomical studies.

THE SECTIONAL ANATOMY OF CONGENITAL CÆCAL HERNIA.†

THIS brochure contains an account of a series of sections through the pelvis and inguinal regions of a subject with a large congenital hernia, and consists of thirty pages of letter-press and three coloured plates. The subject was a powerful man who was brought into the Anatomical department of Trinity College, Dublin, and the sections were cut at different levels after the body had been frozen. The hernia contained portions of the cœcum, and vermiform appendix, ileum and mesentery. There was found a curious pouch of peritoneum lying on the outer side of the hernia and quite independent of it. This the authors regard as a foetal structure originated by the gubernaculum muscle. A close examination of the sections reveals many points of interest both to the surgeon and the anatomist. The plates are reduced facsimiles of the originals and are beautifully executed.

* A Directory for the Dissection of the Human Body. By John Cleland, M.D., LL.D., F.R.S. Third Edition, thoroughly revised by J. Y. Mackay, M.D. London: Smith, Elder & Co. 1888.

† The Sectional Anatomy of Congenital Cœcal Hernia. By E. H. Bennett, M.D. and D. J. Cunningham, M.D. Illustrated. London: H. K. Lewis. 1888.

RETROSPECT.

OPHTHALMOLOGY.

BY E. WOOD-WHITE, B.A., M.B.

A Case of Injury to the Eye from Lightning Stroke. Dr. Buller, Arch. Ophth., Vol. xvii.—The stroke caused complete loss of consciousness and collapse, so intense that for some time life seemed extinct, three quarters of an hour elapsing before there was any sign of recovery. Examination showed that the electric fluid struck the head above the left eye, singeing the lashes and leaving a red mark on the brow, it then passed in front of the ear, down the side of the neck, the median line of thorax, and finally traversed the outer surface of each lower extremity. Complete paralysis of the pharynx, tongue, and of the muscles of the body and extremities followed. There was also a suffusion of the lids of the left eye, causing complete closure, and there was a slight effusion in the anterior chamber. The paralysis and effusion gradually passed off; but for several weeks the left eye was drawn inwards and upwards. The patient was examined sometime afterwards by Dr. Buller, who then found nothing abnormal in the external appearance of the eyes. An ophthalmoscopic examination, however, revealed an opacity of the posterior part of the left lens, circular in outline, but not defined, and some opacities in the vitreous. The optic nerve was pale, its margins blurred and indistinct, and the arteries and veins were much diminished in calibre, some of them having white borders. At the periphery there was a large patch of pigment, in the centre of which there was a patch of orange colour. $V = \frac{1}{16}$. The author considers that the lesions to the nerve may have been caused by an effusion into the tissues of the orbit, causing pressure on the optic nerve, an effusion into the sheath of the nerve, or an interstitial neuritis

resulting from concussion. The peripheral pigmentation may have been due to a rupture of the choroid and hæmorrhage. He states that all these lesions are such as might have resulted from an ordinary traumatism, and he considers it probable that the lesions were caused by mechanical violence rather than by the chemical or thermal action of the electric fluid.

A Contribution to the Treatment of Membranous Opacities of the Vitreous.—Dr. Bull, Boston Medical and Surgical Journal, July, 1888. The author states that opacities of the vitreous in the form of membranes or shreds are rarely freely moveable, and resist internal treatment. Operation by incision with a needle was first recommended by Von Græfe. Dr. Bull has performed the operation in seventeen cases. The point selected by preference for the introduction of the needle was just in front of the equator of the eye, and below the insertion of the external rectus muscle. There is no danger of loss of vitreous or hemorrhage, but the puncture must be well behind the ciliary processes, and pressure with the forceps must be avoided. As a rule little or no reaction follows the operation. A protective bandage is required for a few days. Antiseptics were used in all of the cases given; in 14 there was improvement in vision; three failed to improve in sight: but there was no loss of vision from the operation in any instance. The author does not perform the operation until all inflammatory symptoms have subsided.

Retinal changes in Bright's Disease.—R. Maguire, M.D. (Lancet, July 1888). The pathology of the white patches in the retina occurring in Bright's disease is by no means clear. In the majority of cases the condition of the lesion is one of degeneration rather than that of inflammation. The white spots usually occur at some distance from the blood vessels, and they are most common in cases of granular kidney. The other feature which Dr. Maguire has found common to all cases of so-called albuminuric retinitis is high arterial tension, and he is inclined to think that the degeneration is directly due to this tension. In Bright's disease the vessels become much contracted,

consequently parts at a distance from the vessels suffer from lack of nutrition. It is well known that high arterial tension causes a diminished circulation through the smaller vessels, and consequently the retina becomes more than ever deprived of its blood supply. The rarity of albuminuric retinitis in cases of amyloid kidney, and other forms of Bright's disease where it is unusual to find cardiac hypertrophy or increased arterial tension lends support to the theory advanced. The author has found vision improve in many of his cases where high tension has been combated by rest in bed, and the use of calomel and salines.

Insufficiency of Internal Recti Muscles.—H. Hansell, M.D., Medical News, August, 1888. The strain and headache caused by uncorrected errors of refraction are widely known both by the profession and laity; but it is perhaps less recognised that insufficiency of the extrinsic muscles of the eyeball frequently give rise to somewhat similar symptoms. When it is of high degree the patient complains of occasional double vision, and the degree of deflection can be easily ascertained; but when the insufficiency is slight, no strabismus can be detected and diplopia is absent. In such cases the tests must be modified by the induction of vertical diplopia by means of a prism, which must be used strong enough to overcome the superior or inferior rectus, the base being placed directly upwards or downwards. A lighted candle placed at a distance of 20 feet will then appear double. Now if the external and internal recti muscles are in equilibrium, one light will appear directly over the other; but if the internal muscles are too weak and the lines of vision diverge, the patient will have a crossed diplopia as well. The prism placed horizontally, which is necessary to bring the light back to the vertical line, will be the measure of the defect. The symptoms in these cases are very similar to those caused by refractive errors. Close work is only possible for a short time. Neuralgia, nausea, dizziness are often complained of. The causes of insufficiency may be divided into those of constitutional and local origin. Among the former are mentioned malaria, exhaustion from overwork or

during convalescence from low fevers, muscular debility, and the neuropathic predisposition; while among the latter may be mentioned errors of refraction, the use of a magnifying lens for one eye, and long-continued work, especially in a bad light. If the insufficiency is under 10° , Dr. Hansell usually finds the symptoms relieved by the use of prisms of one-half the strength of the defect, and divided between each eye; but if above 10° , tenotomy of the external rectus is usually found necessary; and he has never had to operate on both eyes.

Unilateral Tonic Spasm of the Ciliary Muscle induced by pressure of the carotids.—Dr. Ball, Arch. Ophth., Vol. xvii.—The patient had suffered from metritis for many years, which was treated by massage over the perinæum and pressure on the neck over the carotids. Some days previously to Dr. Ball seeing the patient, as the physician forcibly massaged the neck the patient noticed a feeling of tension in her right eye, after that everything appeared larger than before, and of a reddish colour. These symptoms were succeeded by blurred distant vision, pain in the eye, and headache on the same side. On examination four days after there was congestion of the eye, pupils were of equal size, and reaction to light and accommodation unimpaired. The anterior chamber of right eye was considerably narrowed, pressure over the inner half of the cornea produced pain, and there was marked hyperæmia of the optic disc and vessels. R. = $\frac{2}{3}$ c. — 4.50 D. Light perception and visual fields normal. A thermometer introduced into the right auditory meatus showing 0.5° Fahr. higher than on the left side. The eye symptoms gradually yielded to the instillation of atropine, and in a few weeks had quite disappeared. The first impulse of cramp was certainly due to pressure on the carotid plexus, though it is strange why a tonic cramp of the muscle should have been produced, and also that the iris should not have been equally involved. The hyperæmia of disc and eye and increased temperature were induced by direct vasomotor disturbance on the corresponding side of the head, but the author is not prepared to say what this disturbance may have been.

THERAPEUTICS.

BY ARTHUR FOXWELL, B.A., M.B.

Arsenic in Leucocythaemia. — A gardener, admitted into University College Hospital, under Dr. Ringer, with spleen reaching to within an inch of Poupart's ligament. He had had his first attack of ague at Charlton when he was twelve. He noticed his belly to be swelling ten months before admission. He suffered from piles and epistaxis. He was thin and pale; there were mitral and pulmonary systolic murmurs; the arteries were fibroid. On admission, blood showed 38 per cent. red corpuscles with 1 white to 2·5 red. He was then put on liq. arsenicalis m. 5 t.d.s., and this was pushed to m. 25 q.d.s. in eighteen days. This dose (nearly gr. j. arsenious acid daily) was continued for five days, when diarrhoea compelled its cessation. The blood now showed 55 per cent. red corpuscles, with 1 white to 20 red. The spleen was reduced to two-thirds its size on admission, was harder, and had lost all tenderness. The temperature, which had previously had a daily maximum of 100°, became normal. The hæmoglobin was 40 per cent. (Its estimation had hitherto been impossible owing to the turbidity caused by the white corpuscles.)

Twenty-seven days later the white corpuscles had increased to 1 to 9 red; his red corpuscles were 50 per cent., and the hæmoglobin was unchanged; but the spleen had returned to its size on admission, and was very tender.

But an intervening attack of carbuncles and erysipelas, with temperature reaching 102-104° for a few days, and for which he was treated with iron, vitiates any conclusion drawn from these results.

He was now once more placed on liq. arsenicalis m. 15 q.d.s., quickly pushed to m. 23 q.d.s. In 21 days his white corpuscles were only 1 to 300-400 red, these latter remaining stationary till ferri sulph. gr. 2 q.d.s. was added, when they were temporarily increased. The hæmoglobin was unchanged; the spleen

was much smaller, hard, and not tender; the skin became quite bronzed, especially over the belly and bony prominences, the bronzing consisting of minute points, chiefly confined to the prominences of the hair follicles. Vomiting, anorexia, and diarrhoea again necessitated omission of the arsenic; and soon after, the patient left the hospital very little improved in health and of the same weight.

The following observations made on this patient, showing the effect of food on the corpuscles, are interesting. He was allowed nothing to eat from 5 p.m. to 9 a.m. the next day, when he had a good breakfast.

At 8-0 a.m.,	50 per cent. red ;	1 white to 4'0 red.
8-30 "	47 per cent. red ;	1 white to 4'5 red.
9-0 "	49 per cent. red ;	1 white to 4'3 red.
9-30 "	43 per cent. red ;	1 white to 3'3 red.
10-0 "	51 per cent. red ;	1 white to 2'4 red.
11-0 "	52 per cent. red ;	1 white to 3'7 red.

The movements of the white corpuscles on the warm stage (90° F.) in this patient were just as active as in a healthy person.—*Therapeutic Gazette.*

The Untoward Effects of Saccharin.—The general impression seems to be that saccharin is innocuous; and this impression has doubtless been materially supported by a report made to the Medical Society of Berlin, in April, 1886, by Professor Leyden, and by a sort of a certificate of his, widely distributed by the manufacturers of saccharin, Fahlberg, List & Co., to the effect that even the prolonged use of the substance gives rise to no inconvenience. In general terms, this has been the experience of most observers, but many of them add that occasionally a case is met with in which saccharin disagrees. Dr. Stadelmann, of Heidelberg, has experimented with the product, at the request of the manufacturers, and has reported that out of eleven persons, from 15 to 35 years old, to whom he gave saccharin in daily quantities of from 45 to 75 grains for two or three weeks at a time, nine experienced no unpleasant effects,

while two suffered with nausea, an excessive sensation of weight in the stomach, and loss of appetite. Dr. Worms has made a communication on the subject to the French Academy of Medicine, an extract from which is given in the *Revue Générale de Clinique et de Thérapeutique*. After citing the above-mentioned facts, he gives brief notes of the cases of four diabetics who used saccharin by his advice, all but one of whom were soon compelled to discontinue its use, on account of the occurrence of dyspeptic symptoms—nausea, and sense of weight in the epigastrium, loss of appetite, amounting to absolute loathing for food, and in one instance a constant sugary taste in the mouth. Admitting that his observations are not numerous enough to justify much in the way of generalization, he nevertheless thinks it must be admitted that a certain proportion of diabetics can not bear the use of saccharin for sweetening their tea and coffee longer than eight or ten days at a time. Obscure as the problem of diabetes is, the disease comprising innumerable varieties, as regards both the symptoms and the pathogeny, there is, he remarks, one therapeutical rule that must be observed in all cases—that of maintaining the integrity of the digestive functions. It is better for a diabetic that he should excrete a little more sugar and assimilate his food than that he should pass less sugar and still lose ground. Moreover, many diabetics suffer but moderately from foregoing the use of sugar, and it may be said provisionally that they should not be permitted to use saccharin in larger amounts than from three quarters of a grain to a grain and a half daily, and then only so long as it does not give rise to any digestive disturbance. It is usually not until after the substance has been used for from ten to fifteen days that it manifests its evil influence, appearing to accumulate in the system until then.—New York Medical Journal.

Phenacetin.—The latest synthetical candidate for professional favour is para-acet-phenetidine, or phenacetin for short. It is a member of the aromatic series of the carbon compounds, remotely akin to antipyrin (dimethyloxyquinizine), and the twin

sister of antifebrin (acetanilide). Like these two overpraised drugs, it seems to be endowed with great antithermic and analgesic powers, and is doubtless destined to play an important *role* in the practice and writings of such physicians as have a taste for "seeking and searching out some new thing."

This body was first prepared by Dr. O. Hinsberg, of Elberfeld, who, with Professor Kast, has subjected it to careful physiological and chemical study. "Phenacetin is an inodorous and tasteless powder, hardly soluble in water, a little more soluble in glycerine, but easily soluble in hot alcohol; it is insoluble in acids or alkaline liquids. Experiments made as to its solubility in acid chyle (gastric juice) or in pancreatic extract, under conditions of normal bodily temperature, yielded negative results."

Dr. G. Kobler, of Vienna, has submitted the drug to searching study in practice in the wards of the Second Medical Hospital of Vienna, and in an elaborate paper lays before the profession a clear and forcible demonstration of the power of phenacetin to reduce fever promptly, and seemingly without danger to the patient.

The author says: "In healthy persons phenacetin did not produce any ill effects in doses of from 0.5 to 0.7 grammes (8 to 12 grains), neither could I observe any influence on the temperature of the body; but in all cases of pyrexia even relatively small doses of 0.3 to 0.4 grammes (4 to 7 grains) were never without perceptible antipyretic effects." The drug, in the author's opinion, is harmless in doses not greater than 26 grains *pro die* in fevers, sthenic and asthenic, and Hoppe has ventured to administer it in doses of from 16 to 32 grains, several times a day in cases of neuralgia, wherein he claims for it a slow (one or two hours) but sure relief of pain without ill effect of any kind.

Dr. Kobler has tested the antipyretic virtues of phenacetin in 50 cases. Of these tuberculosis, pneumonia, typhoid fever, morbilli, puerperal fever, pruritus, and pyæmia were the principal diseases, and in two cases Bright's disease was an important

complication. In none of these, save one, was anything but a pleasant effect noticed, no nausea, vomiting, or symptoms of collapse being manifest. The drug was administered only when the continued high temperature seemed likely to be prejudicial to the patient, that is, in a long-continued temperature of 102° F. to 104° F. The reduction of temperature took place slowly, the maximum effect being produced in from four to six hours; this point being reached, the temperature again rose, and in from eight to ten hours all effects of the drug had passed away. Nocturnal exacerbations in phthisis were delayed, but not prevented, but the rise of temperature was not accompanied by rigors.

The fall of temperature under phenacetin is not usually accompanied by perspiration. When perspiration does occur there may be a chill with a sudden depression of the temperature curve. In one case of phthisis, wherein a second dose (four and a half grains) had been given before the first had developed its full effect, the patient had, after four hours, chills, profuse sweating, and a temperature of 95° F. This would seem to be the only untoward effect noticed after a very liberal use of the drug in fifty cases of pyrexia. This case aside, it is the author's experience that in repeated small doses phenacetin acts less energetically than when given in a single large dose.

"Special attention was paid to the possibility of cyanosis following the fever reduction, but neither cyanosis nor collapse supervened. Even in the ten cases of pneumonia reported (a malady often producing cardialgia) no such effect was registered by phenacetin." The author believes that his observations justify the conclusion that phenacetin has no detrimental influence upon the blood and organs of circulation.

With a majority of the patients a well-pronounced euphoria accompanied the reduction of temperature under phenacetin; they expressed a sense of relief, became affable and cheerful, and asked for nourishment.

The drug exerts no diuretic action, and passes harmlessly out of the body by way of the kidneys. Its presence in the

urine may be demonstrated by a red reaction on adding ferric chloride to this fluid. The author thus summarises his experience :—

(1) "Phenacetin is a decided antipyretic. (2) It has no disagreeable or deleterious effects, such as cyanosis or collapse. (3) It produces decided euphoria. (4) It is best given in single doses of from eight to twelve grains, instead of smaller ones repeated every hour or two. (5) The reduction in temperature after such a dose is from two to two and a half degrees centigrade."

The above report is certainly very interesting and, if verified by subsequent clinical experience, phenacetin will take its place among the best agents in the materia medica, and remove the disfavour into which antipyretic therapeutics has fallen under the uncertain and sometimes dangerous performances of antifebrin and antipyrin. It is also gratifying to note that the new drug is not compromised by a patent, and that it comes before the profession under an honest chemical name, abbreviated and pronounceable. It is to be hoped that for a time at least the physician will judiciously keep the name of this drug and its uses to himself, carrying it in wafers, or in tablets in his pocket, from which he will dispense it without the usual popular therapeutic lecture. If this precaution be duly taken, then it is possible it will not, like antipyrin and antifebrin, become a common domestic remedy before science has had time to test its virtues or point out its contra-indications and dangers.—*Am. Pract. and News.*

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The first General Meeting was held in the Medical Institute on Thursday, Oct. 11; the President, Dr. T. W. THURSFIELD, in the Chair.

The following members of the Association were elected members of the Branch :— Messrs. F. J. Gray, Walsall; John Brown, L.R.C.P., M.R.C.S., Sutton Coldfield; A. R. Roberts, L.R.C.P., L.R.C.S. Ed., Leamington; and G. N. Nason, B.A., M.B. Cantab., Birmingham.

Mr. J. W. Taylor showed a case of bleeding myoma which had been treated by galvanism. The hæmorrhage had lasted for six years, and on first seeing the patient it was found that this was accompanied by some albuminuria. Since treatment menstruation had become normal, the albuminuria had disappeared, and the patient was now able to engage in active work.

Dr. Suckling showed a girl who had recovered from cancrum oris supervening on an attack of purpuric typhoid fever. The cheek was perforated, but the disease was arrested by the free application of strong nitric acid.

Dr. Saundby showed a case of acromegally. There was hypertrophy of the upper extremities below the elbow and the lower extremities below the knees, also of the clavicles, ribs, and iliac bones, and the fibro-cartilages of the nose and ear. The thyroid was distinctly atrophied. The case had lasted twenty-one months only. There was no hypertrophy of the lower jaw and no cerebral symptoms. The reflexes were generally exaggerated except the knee jerks, which were absent.

Dr. Simon also showed a case of the same rare disorder but in a less advanced state of development ; the fingers, wrists, and second toes of each foot only being affected.

Mr. Jordan Lloyd showed a girl, aged 15 years, with a large swelling in the course of the right sterno-mastoid muscle which had been diagnosed strumous glands, but which turned out on operation to be gummatous infiltration of the substance of the sternomastoid muscle. A brother and a sister had suffered from keratitis.

Mr. T. H. Bartleet read a paper "On Sinuses in the neighbourhood of but unconnected with joints," which we publish in full elsewhere.

Mr. Jordan Lloyd referred to the occurrence of chronic destructive disease (fungous synovitis) in the sheaths of tendons, and considered it one of the causes of extra-articular joint diseases ; others depended on extra-articular suppurations dependent on non-suppurative intra-articular inflammation, and others on "strumous" disease of the outer layer of the periosteum of the neighbouring bone ends.

Mr. Bennett May agreed in the occasional difficulty of discerning between extra- and intra-articular inflammation of deeply situated joints. Residual abscesses were seen about joints which had apparently completely recovered. Mr. Bartleet's suggestion for the treatment of deep sinuses was well worthy of trial.

Mr. Marsh had found that the majority of deep abscesses about joints—without intra-articular mischief—were due to epiphysitis of the bones entering into the joint formation.

Mr. Bartleet briefly replied.

Mr. Lawson Tait read a paper on "A second series of 1000 consecutive cases of Abdominal Section." This number included all the operations performed since his first 1000 was completed. The results were placed in contrast chiefly with those obtained in the first series of 1000 cases of abdominal section, published by Mr. Tait in 1884. The general mortality just over 5 per cent., had markedly decreased, and the propor-

tional number of cases of exploratory incision and of uncompleted operations (6) had also diminished. Not one of the operations classed in the first series had to be abandoned, either owing to unjustifiable primary results, or results which had not proved satisfactory in the secondary stage, that is of ultimate benefit. On the contrary, such operations as cholecystotomy, hepatotomy, nephrectomy, and nephrotomy have been securely placed as amongst the most satisfactory operations in surgery. Abdominal section for chronic peritonitis must also be admitted as a now fully recognised proceeding, and the surgical treatment of acute peritonitis only waits a fair trial to give the profession confidence in its extension even to the puerperal condition. One of the operations in the former series, Cesarian section, had been replaced by the operation of amputation of the puerperal uterus with the most satisfactory results. Supravaginal hysterectomy for myoma, after many disappointing results inevitable in the experimental efforts of a new proceeding, had at last reached a mortality which proves satisfactory, and which is steadily improving. The treatment of myoma by removal of the uterine appendages and by hysterectomy did not seem to be sensibly affected by the so-called electrolytic treatment, though the latter had been vigorously pushed now for nearly two years.

Dr. Thursfield congratulated the Society on having so valuable a communication read at its meeting. He thanked Mr. Tait for his paper, which he spoke of as an "epoch-making" contribution to medical science.

Mr. Jordan Lloyd referred to the satisfactory result of the "enterotomies" eleven operations with two deaths only. He asked what cases were included by Mr. Tait under the heading "nephrotomy."

Mr. Bennett May asked whether Mr. Tait really intended to convey to the members the idea that sarcomata of the abdominal viscera sometimes grew less after simple abdominal incision. He could not reconcile such a statement with our present views of the pathology of sarcomatous growths.

Dr. Ross (Toronto) agreed with Mr. Tait in his views of the

Apostolian treatment. Several prominent American gynæcologists, who had formerly written eulogistically of the method, had since changed their opinions with regard to it.

Dr. Lycett referred to the disasters occasioned by delay in submitting to operation. He thanked Mr. Tait for his illustration of a simple method of performing Porro's operation.

Dr. Saundby suggested that tumours which shrunk after simple abdominal incision may belong to the class myxomata, and that the diminution in size may depend on their giving up more or less of their watery constituents.

Mr. Tait briefly replied, and the meeting terminated.

At a meeting of the Council held subsequently, Messrs. E. Teichelmann and J. E. Thompson, M.B., were elected members of the Association.

MIDLAND MEDICAL SOCIETY.

The first Ordinary Meeting was held on October 17th, at the Medical Institute; Mr. H. KER, President, in the chair.

Mr. Geoffrey Stead, of Walsall, was elected a member.

Mr. Eales shewed a new lamp suitable for reading table and for ophthalmoscopic and laryngoscopic examinations. It is made in the Corporation Gas Department, and is moderate in cost.

Dr. Suckling shewed a man with complete paralysis of the third, fifth, and sixth nerves due to syphilitic gumma pressing on the nerve trunks. Patient had syphilitic orchitis of four years duration. The primary sore was contracted twelve and a half years since. He was improving under mercurial inunction and the iodides.

Mr. Eales commented on the absence of corneal ulceration, which he thought might be explained by the protecting influence

of the dropped lid of the ptosis. He thought the symptoms pointed to multiple gummatous lesions affecting the central nuclei rather than the nerve trunks.

Dr. Saundby said that intra-cranial gummata were usually meningeal in their situation. He should think the seat of lesion was in nerve trunks.

Dr. Suckling replied.

Dr. Saundby shewed two cases of purpura referred to in his paper. One followed an injury to the left index finger and spread up the limb to the trunk. Crops of purpura follow irritation applied at any time to the patient's skin.

Mr. Eales shewed a case of symmetrical caries of the malar bones in a child.

Mr. Jordan Lloyd shewed Dr. Macewen's instruments for spinal operations, also his hernia needles and periosteal raspatory.

Dr. Suckling shewed a case of bilateral spastic hemiplegia in a child: other members of the family suffered from allied disorders.

Dr. Kirby shewed the kidneys and supra-renal bodies from a case of Addison's disease. The kidneys were large and the adrenals were broken down by suppurative changes. The patient was a young woman, ill four months; leading symptoms were mental delusions, headache, constipation, enlarged spleen; bronzing of skin during last two months of life. Two years before, she had a similar attack from which however she completely recovered.

Dr. Suckling referred to a case of complete supra-renal caseation without skin bronzing.

Dr. Saundby thought the enlargement of the spleen was interesting, and had often seen it before in Addison's disease. The connection between skin bronzing and disease of the adrenals is not yet settled.

Dr. Kirby, replying, said there was no evidence of tubercle in the case.

Dr. Saundby then read a paper on purpura: its varieties, pathology and treatment. He divided the disease into two great classes: purpura simplex and purpura hæmorrhagica, which differed pathologically only in degree, and clinically in the bleedings from the mucous membranes seen in the latter. Purpura occurs in very many diseases, after local injury and the administration of certain drugs, in the aged and apparently healthy children. He read notes of a series of cases recently under his care. Many theories of the malady had been advanced but only four called for consideration, viz: the hæmic, the toxic, the mechanical and the neurotic. His observations led him to think most favourably of the toxic theory—that the disorder depended upon the presence in the blood of some chemical substance, a leucomaine—probably produced within the body. He shewed a boy in whom an outbreak of purpuric spots began in the neighbourhood of an injury to a finger and spread over the extremities and trunk, and expressed his belief that in this case an absorption of a chemical poison of some kind began at the local wound and gradually continued until the body became saturated. The blood in all the cases had been examined for micro-organisms by Dr. Crooke, both microscopically and by cultivation, but with negative results. The number of hæmocytes and the amount of hæmoglobin were reduced. Retinal hæmorrhages were absent and the gums were healthy in all. A diagnosis had to be made from hæmophilia and scurvy; the former is always congenital and is characterised chiefly by the tendency to bruise easily, the latter by the sponginess of the gums and the previous abstinence from fresh vegetable foods. Prognosis should always be guarded, because an outbreak of purpuric spots in the course of many maladies is often of portentous significance. The causes of death were due to heart failure, bleeding into the intestinal tract and gangrene. In treatment he had found large and small doses of turpentine to be inefficient in both forms of the disease; ergotin given hypodermically was of great value in the hæmorrhagic variety, but was useless in the simple form.

Dr. Suckling referred to six cases of pernicious anemia which had recently come under his care. In all there were retinal hemorrhage, fever, epistaxis, and diminution in the number of the red blood corpuscles. He had found Burroughs and Wellcome's Ergoticine to be most useful.

Dr. Hogben referred to an outbreak of epidemic cerebro-spinal meningitis which had come under his observation, and in which purpura was a leading feature.

Mr. Bennett May spoke of the value of the local application of perchloride of iron and of strong solutions of cocaine.

Mr. Jordan Lloyd thought that purpura should rather be regarded as a symptom, or an incident occurring in the course of some other disorder. He failed to see the essential difference between hæmophilia and purpura. The assertion that the former was congenital and continuous and the latter acquired and temporary would not satisfy the requirements of clinical observation.

Dr. Crooke suggested that where organisms had been found they were accidental rather than causal, and probably made their appearance in the blood shortly before death. He had proved this to be the case in the "purples" of pigs.

Dr. Saundby briefly replied, and the meeting terminated.

Local News.

At a recently held Congregation Mr. J. T. J. Morrison, F.R.C.S., Casualty Surgeon to Queen's Hospital, was admitted to the degree of Master of Arts in the University of Cambridge.

NEW INVENTIONS, DRUGS, ETC.

NESTLÉ'S FOOD.—The best food for an infant is without doubt the milk of its mother, provided it is sufficient both in quantity and quality. Next to the mother's milk should be ranked the milks of the goat, the ass, or the cow, provided the stomach of the child can be made to tolerate them. Unfortunately, however, from various reasons, we have to look to other sources than these for our baby's nourishment, and these are to be satisfactorily found in the various artificial foods which flood the market. Some of these are good, some bad, and some indifferent, and amongst the foremost class must be placed the special preparation of Nestlé. A reference to its manufacture is the best way of stating its merits to the public. The basis of Nestlé's food is Swiss milk of the finest quality, concentrated *in vacuo* at a temperature which preserves its freshness unimpaired, and which, at the same time, is sufficient to sterilize it. Wheat flower, made into a paste, thoroughly baked by a special process, and then finely pulverised, is mixed with the concentrated milk in a definite proportion. The mixture is dried, and again pulverized with the greatest care. It requires only the addition of water to prepare it for use, and is not only one of the *best*, but also one of the *cheapest* foods for infants. We have found Nestlé agree with delicate children after having failed with many other artificial foods, and but the least of its advantages is the readiness with which infants take it.

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ORIGINAL COMMUNICATIONS.

ON THE VALUE OF PLASTIC METHODS AND
THEIR PLACE IN SURGERY.*

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PLASTIC surgery may be defined as that branch of our art which attempts to remedy some deformity, or to restore, as well as may be, some lost function or portion of the body, chiefly by transplantation or implantation of tissue taken either from some near or distant part or from the body of another person.

Dieffenbach, in an introduction to the work of Zeis on Plastic Surgery, published in 1838, just fifty years ago, states: "I regard it as unnecessary to say anything in praise of that section of surgery which has for its object the restoration of bodily defects. It is one of the highest achievements in the whole domain of surgery."

"Er ist die höchste Blüthe der ganzen Chirurgie." Thus wrote one who had himself done much to perfect plastic surgery; and his words may well serve as an excuse, if an apology be needed, for bringing this subject to your notice.

Many great surgeons have developed or shown great interest in this branch of our profession. Taliacotius, whom we know as the father of the art in Italy, enjoyed in his day the highest

* Paper read before the Midland Medical Society, Nov. 14th, 1888.

consideration. In Germany we may mention the names of Von Anmon, Graefe, Dieffenbach, Langenbeck, Blasius, Rust, Textor, Beck, Benedict, Bunger, Chelius, Dzondi, Fricke, Heidenreich, Reiner, V. Walter, and Zeis; in France those of Blandins, Delpech, Lisfranc, Jobert, Malgaigne, Percy, and finally Dupuytren, who, during the last years of his life, restored many lost noses. In England, Carpue, Tyrrel, Liston, Ferguson, Syme, as well as many others, paid much attention to plastic surgery.

The subject is as wide as it is interesting, and I can only discuss a very limited portion of it. I do not propose to refer to congenital so much as to cases of accidental defect, and more particularly to the method of rectifying these defects by means of transplanted portions of skin.

We cannot, as a rule, remedy defects in the more complex structures of the body; we cannot restore the continuity of a divided muscle, an artery, or a vein; no organ can be restored. We cannot replace a lost eye, although the attempt has been made, but the cornea of a rabbit has been transplanted into the opaque cornea of a man, in the hope of forming a window for the otherwise sound eye to see through. Lost portions of the eyelids, of the cheeks, of the nose, the lip, or the ear can be made good. We may also close abnormal openings. We can remedy the deformity following after burn or accidental injury.

The common practice amongst barbarous and semi-barbarous nations of cutting off the nose as a punishment seems to have given the earliest stimulus to one branch of plastic surgery, and the frequency of this form of mutilation in India gives the descriptive name of "Indian operation" to one form of rhinoplasty. The Kooma caste, a sort of inferior Brahminical priests, seems to have had the monopoly of the operation, and to have practised it from remote ages.

Galen mentions that the Egyptian priests used to manufacture noses for those who had lost their own. In Sicily, at the end of the fourteenth century, Branca seems to have known the art, as it is written of him, "*Si tibi nasum restitui vis ad me veni.*"

The MS. recording the fact is in the Dominican Library at Palermo, and the art was continued with the members of his family for a lengthened period. They practised it in a small Neapolitan town, the method they employed appearing to be the use of a flap taken from some poor person.

Caspar Taliacozzi was born in Bologna in 1546. He was a most distinguished Professor of Anatomy and Medicine in the university of that town, which, as you know, has lately celebrated its eighth centenary. To him is certainly due the scientific practice of rhinoplasty, and his manner of operating has, since that time, been called the "Italian method." In 1597 his work "*De Chirurgia Curtorum per Insitionem*" was published in Venice, and he died shortly after, in 1599, having enjoyed an immense repute during his life.

Taliacozzi claims to be the first to use flaps of skin taken from a distant part of the body, but Franco and others had already done the same.

In the works of Fabricius Hildanus we find that Griffon, a surgeon of Lausanne, restored a lost nose in 1592 by means of a flap of skin taken from the arm. The case was that of a girl, who is said to have cut off her nose to spite some soldiers of the Duke of Savoy whose attentions were too pressing. She was a pretty, modest maiden, and sought thus to escape their blandishments. Griffon's operation was so successful that the new nose, it is stated, was almost perfect. Griffon is said to have learnt Taliacozzi's method, for this surgeon's work was as yet unpublished, from an Italian travelling north.

Taliacozzi recommended that a part of the patient's body, and not that of another person, should be used. The many stories afloat are based on the supposition that the new nose formed by skin taken from some one else retains, in some mysterious way, a sympathetic connection with its former possessor. The reference in Butler's *Hudibras* is founded on this belief.

Van Helmont (1682) and others mention, on the authority of eye-witnesses, the mortification of the new nose coincidently

with the death of the person who had furnished the material to form it. Edmund About's story of "The Notary's Nose" rests upon the same assumption. He tells amusingly how a sturdy Alsatian of no very regular habits supplied the needful amount of skin to reproduce the nose of a handsome notary, which had been sliced off in a duel, when it was immediately devoured by a dog standing by. In duels amongst the German students, by the way, the presence of dogs is strictly forbidden. The Alsatian got a round sum down and an allowance, upon which he lived so exceedingly well that, by-and-by, grog-blossoms appeared on the notary's nose. The horrified lawyer searched Paris for the man, to remonstrate at his conduct, and finally stopped his allowance. The grog-blossoms soon disappeared, but after an interval, the notary's nose was seen to dwindle, and finally it came to nothing, when it was discovered the Alsatian had just died of starvation, in consequence of the deprivation of his allowance.

Thus matters stood until the end of the last century and the beginning of this, when news came from India that noses cut off as a punishment by the Indian princes were restored by native operators, and the relation of the case of a pariah thus operated upon, Cowasjee by name, is to be found in the *Gentleman's Magazine*, 1794. The English Consul in Poonah sent 400 miles for the man who, it was said, was the only operator in India at that time, and in whose family the business was, it appeared, hereditary. Two English surgeons of the Bombay Presidency were present, and the operation, as related by them, is much the same in detail as that of the Indian operation now practised. A model in wax is first taken which exactly represents the form of the lost portion of nose. This is then flattened out upon the forehead, and a line is drawn around it at a little distance from the margin. The shape and size of the flap are thus indicated. It is dissected up, leaving it attached by a pedicle between the eyebrows. The nasal stump is refreshed, the flap turned round and adjusted in its new position. Sutures were not introduced, but bandages and an earth-dressing applied. "Ghee" was also used as an application, and tents of

charpie were inserted to keep the nostrils open. On the twenty-fifth day the twisted pedicle attaching the nose to the forehead was cut through. There is, however, another plan attributed to the Indians, which consists in removing a large piece of skin from the buttock and applying it bodily to the nose after paring the stump. Bunker states that such efforts have proved successful.

In 1803 Lynn performed the operation in England, but without success.

Carpue, in 1814, successfully operated on an officer who had lost his nose through syphilis, and a year afterwards he operated on Lieut. Latham, whose nose was sliced off by a sword-cut at Albuera, in Spain, while rescuing the colours of his regiment from the enemy. Carpue closely followed the Indian method, with great success in both cases.*

Gräfe, in 1816, about the same time that Carpue published his cases, operated by the Indian plan on a soldier whose nose had been cut off by a sabre, but later on Gräfe adopted the Italian method, modifying Taliacozzi's plan in so far as to apply the flap dissected from the arm immediately to the nose, in place of allowing an interval to elapse as the Italian surgeon did, a modification which, in the opinion of many, was no improvement.† In Munich, Reiner, 1817, almost at the same time performed Indian rhinoplasty with complete success. A case of rhinoplasty is mentioned by Sir Gilbert Blane as being performed by Hutchinson in 1818. Davies restored a nose and upper lip in 1823. Very few other cases seem to have been either performed or recorded, except, perhaps, Syme's operation for filling a hole in the ala of the nose by transplantation of skin (*Edinburgh Journal*, 1835).

Thus we may say was rhinoplasty, and with it plastic surgery in general, introduced in recent times to the notice of surgeons.

"Potiora enim sunt, quæ necessaria, post hac quæ utilia,

* "Two Successful Operations for Restoring the Lost Nose from the Integuments of the Forehead." (London: C. J. Carpue. 1816.)

† C. F. Gräfe, "Rhinoplastik," 6, Kupfer tafeln, Berlin. 1818.

tamen vera decora et splendida" (Taliacotius, lib. vi., cap. xvi., page 59).

In respect of deformity of external parts we seem, for the present at least, to have nearly reached the limit of our efforts, but successful attempts have been made in recent years to unite divided bones, tendons, and nerves; teeth have been transplanted; actual loss of substance, the result of injury to the continuity of a nerve, has been made good by transplanting a portion of nerve taken from an animal or from a recently amputated limb, by grafting the divided nerve on an adjacent trunk or by a species of splicing of its two ends. The gap in an ununited fracture has been filled by a piece of bone and periosteum transplanted from some animal or taken from a recently amputated limb, and sound union obtained in cases which have resisted other methods of treatment. Pieces of bone have been employed for the purposes of grafting, and thus supplying a loss of substance after injury to some other bone or for filling the defect left after necrosis. Flaps containing bone and periosteum have been successfully used to build up the lost skeleton of the nose.

There are two very different ways in which the flap of skin used for transplantation may be treated. It may be immediately transferred to the place it is to occupy, or the transference may be delayed for one, two, or more weeks, until the partially detached flap has become thick and vascular, and better capable of uniting in its new place. A flap dealt with by the latter method may be left, as Taliacotius left it, attached by one extremity alone, or still better, as a more modern plan has it, by both extremities; a plan which presents several advantages: in the first place, by reason of the flap remaining attached at both ends, it may be cut much longer in proportion to its width than would otherwise be practicable without risk of gangrene; it becomes more speedily vascularised, and after a time, when one end of it is separated, the flap can be used with much greater security, and will attach itself to its new connections with greater ease and rapidity.

In the other method the surgeon fashions a flap which he means to employ, and leaves it attached by a sufficiency of its circumference to secure its vitality. It is then immediately transferred and accurately sutured to the artificially prepared raw surface made to receive it.

The Indian operation of making a new nose from a frontal flap, and the various operations to remedy facial defect, are based on the latter plan. Each has its advantages and advocates.

This immediate transference of a partially attached flap from the neighbourhood of the defect is in many cases very successful. But the method is necessarily limited in its application. It is only possible to detach a flap whose length is comparatively small in proportion to the width of the base of attachment, lest gangrene should occur; the somewhat broad connection and necessarily broad flap hinder displacement to any very considerable extent, and the twisting of the base of pedicle of the flap is often unduly great. There is always considerable anxiety for its vitality, even under favourable circumstances, and should sloughing take place, the condition of the patient will be seriously aggravated in place of being improved. Some of these objections do not apply to the employment of bridge-shaped flaps, but the conditions in which these may be employed are of necessity limited.

The granulating flap, in addition to the much diminished liability to gangrene, is protected against the injurious influence of secretions, and against necrosis, from drying up, and to these contingencies freshly formed flaps are exposed; many cases, however, of the successful employment of immediately transplanted flaps are recorded.

Maas published a paper strongly advocating the employment of freshly formed flaps in *Lang. Archiv.*, vol. xxxi., page 559. Autoplasty, or the restoration of a lost part by means of pedicled flaps, has been, he urges, but little resorted to. Indeed, Von Adelman (*Deutsche Med. Wochenschrift*, Nos. 14-16, 1884) pronounces the method a matter of history, and Dieffenbach

("Jetzige stand der Chirurgische Plastik"), *Operat. Chirurg.*, 1845, vol. i., page 380, did not think well of transplanting freshly formed flaps. Many successful cases are, however, recorded.

Fabrizi, of Modena, in 1849 published a case of immediate transplantation of skin from the thorax to the palm of hand of a girl badly burned. He separated the flap from the chest after fourteen days.

Wutzer tried unsuccessfully to transplant from the leg to the heel in a girl of eighteen. The operation probably failed from imperfect fixation.

Thiersch filled up a great gunshot gap in the hard palate by means of a flap taken from the cheek, but hair grew inside the mouth, to the great discomfort of the patient.

Hirschbeck successfully covered an ectopia vesicæ with a freshly formed flap.

In cases where it is desirable to transplant a flap of skin from one leg or thigh to remedy a defect in the opposite one, the limbs should be fixed crossed one over the other, a position borne by the patient for a considerable period without much difficulty.

Good fixation is all-essential in these cases, and the apparatus must be so arranged that the patient is able to tolerate it, as also to render the application of dressings easy. In the lower extremities, and, indeed, elsewhere, each limb should be enveloped separately in plaster of Paris, and the parts then bound together by a third gypsum bandage. Pressure on the malleoli or other projecting points is thus avoided. The fully extended position of the limb is always the one best borne, but the position on the outer side with the knee and hip flexed is also well tolerated. Some skill and experience are very useful in applying these bandages, else pressure sores are not unlikely to be produced, or the apparatus fails to keep the parts at rest. The edges of the ulcer which is to be covered must not merely be refreshed, but, as Thiersch urges, the granulating surface should be scraped off and the dense cellular layer underneath,

with its horizontal layer of vessels, laid bare. The two surfaces thus prepared soon unite, and no subsequent shrinking occurs.

Where a flap is transplanted into a cicatrix the whole of the cicatricial matter should be divided or dissected out, and all tendons and structures bound down by it or adherent set free. Whenever it is possible, cut the flap in the direction of the blood-vessels. The direction of the chief vessels should be considered and the flap fashioned as far as possible, so that its long axis may be parallel to them. It is better to do this even if it involve a greater twist of the pedicle after the transplantation is effected.

In order to fill up a defect on the anterior and inner side of the patella, produced by gangrene of the skin covering the part, for which during eleven months all means to heal the surface were tried without effect, Maas transposed a recent flap from the inner side of the opposite leg. A thin cicatrix covered the larger part of the area concerned, which was four inches by six inches in extent, and this cicatrix constantly gave way in various places when the patient began to move about, while a central portion of two inches square over the patella remained unclosed. Two parallel incisions were made on the inner side of the sound leg, and united by an oblique incision below, so as to form a flap eight inches by six. The superficial granulations and the film of cicatrix having been scraped away and the bleeding stopped, the flap was at once turned into the defect and sutured, the limbs were plastered together by plaster of Paris from the foot up to middle of leg, so that the heel of the left foot rested on the outer side of the ankle of the right. As a permanent dressing, boric ointment was freely applied, and sublimate gauze. There was no subsequent distress; the first dressing remained for eleven days, and on its removal the flap seemed healed in its new position. Thirteen days after the transplantation the pedicle was divided, and even then, every care being taken to avoid error, the patient correctly referred sensation to the right knee in the area of the transplant. Ten months later the patient, a maid-servant, was seen by Maas. There was a

complete restoration of the movements of the knee, and she could kneel without inconvenience on the transplant while at her work. The degree of sensibility as measured by the compass points was precisely alike on both sides.

After a severe injury, causing extensive sloughing of the skin on the inner side of the front of the elbow, in which the brachial artery had been torn across, necessitating double ligature of the vessel, and the front of the humerus exposed, the bruised skin sloughed and a granulating surface extended from the middle of the arm to the middle of the forearm. After five months' treatment, the forearm was bent to a right angle, with a range of movement limited to from 5° to 10° ; the muscles were atrophied. An irregular, thick, tense cicatricial band extended from mid forearm to mid arm. The cicatricial tissue was first dissected out, leaving a quadrangular space six inches by four and a half. A flap was cut from the lower ribs, six inches long and five inches broad, opposite the elbow when placed near the side, its base being between the mammary and axillary lines. The forearm being placed across the abdomen, the flap was attached to the borders of the gap before described, the elbow packed round with sublimate gauze, and a gypsum bandage applied over all.

In this case Maas separated the flap from the chest after seven days, a very early period, but nevertheless without any loss of tissue occurring, which proves how speedily union of the two raw surfaces may take place, quicker, probably, than in any case of granulating flaps. The ultimate result was quite successful.

In a case of ulceration following abscess beneath the acromion there remained several unhealed surfaces, with irregular masses of cicatricial matter between them. This unhealthy material was dissected out, and a flap introduced taken from the shoulder. Complete recovery followed, and the lost movements of the arm were fully restored.

Maas considers that freshly formed flaps can be safely transplanted if care be taken to ensure immobility, and that the easiest and the best means of doing so is to employ plaster of Paris bandages.

The situation of the defect which it is desired to remedy, and the position from which the new flap is to be taken, must determine whether it is better to prepare the soft parts and suture the flap in position before applying the fixation apparatus, or to apply the plaster of Paris bandage and immobilise the parts as a preliminary step. The first proceeding is easier, and in most cases the preferable one to adopt.

The flap should be accurately sutured to the margins of the defect, and as much as possible of its surface brought into contact with the parts it is intended to cover, and one or two buried sutures may be introduced for the purpose of procuring this more completely.

It is of the greatest importance to prevent desiccation of the flap, which may entail gangrene, and this may be done by smearing it with a thick layer of boracic ointment, and not less essential is it to protect the wound from septic influences. As regards the time for division of the pedicle, ten to fourteen days is an average period, but the extent and completeness of the union must largely influence the surgeon's decision. It is always better to err on the side of delay. Experience seems to prove that either a speedy connection takes place between the nerves in the parts around and those of the transplant or the projection of nerves into it must occur. In a comparatively short time there is no difference, in respect of sensibility or referred sensation, between the transplanted portion of skin and that of the corresponding part of the opposite limb.

For some years past I have abandoned the immediate method of rectifying defects except in certain operations for the relief of deformity of the face, especially the formation of a new lip, the remedying of an ectropion, or some similar deformity, which may best be treated by immediate transplantation.

It is, I think, much safer in regard to the survival of the flap which is to be used for plastic purposes to detach it, as one might say, by degrees, and only after it has acquired a vitality of its own. It is not that this manner of plastic procedure is in any respect new, for the Taliacotian operation is largely based

on this method. It is rather to some novelty of application or extension of the method that I would ask leave to call attention. In this country Taliacotian rhinoplasty has been but seldom practised during recent years.

It happened to me a few years since to have, at no long interval, two girls under my care, in each of whom the end of the nose had been accidentally destroyed. One was a young Irishwoman, the end of whose nose had sloughed off after an injection into it to cure a *nævus*. The other had been sent to me from New Zealand, a dog she was caressing having completely bitten off the young lady's nose.

The idea of producing an unsightly cicatrix on the foreheads of these young girls was distasteful, so I determined to try a modification of Taliacozzi's plan.

Taliacozzi, in performing rhinoplasty, left the flap attached at one end, expecting it to shrink in time to its proper proportions, but as a consequence it became rather unmanageable.

The better plan is to have it connected at both ends until vascularised, and afterwards to shape it to the purpose, and this I did in these cases, with a favourable result in both. I need not describe the operation in detail; it will be sufficient to present drawings from photographs taken of a few cases before and afterwards. All I need say is that the persons chiefly concerned, and their friends, were perfectly satisfied. Sir William Stokes and Mr. William Rose, and others perhaps, have since operated successfully in a quite similar manner. The mode of fixation of the arm is of the greatest importance, and the instrument I used, which was elaborated after much time and trouble, is a modification of the original apparatus of Taliacozzi.

A very ingenious method of forming a bony bridge for the nose, to remedy the hateful deformity so frequently the result of syphilitic necrosis of the nasal bones, has been practised in two cases by Israel, who gives an account of his method in *Langenbeck's Archiv.*, vol. xxxvi. It is a modification and improvement of König's plan, which, like Israel's, consists in turning down from the forehead a flap composed of skin, periosteum,

and bone, the cutaneous surface of the transplant being directed towards the nose.

First the cartilages and extremity of the nose are separated by a transverse incision from the sunken bridge, and the frontal flap detached from the forehead. It is composed of skin, periosteum, and a layer of bone, which is separated by a chisel, turned down into the gap and sutured with the raised extremity of the nose. The gap in the forehead is also sutured, and a wholly insignificant scar is the result. The exposed surface of bone in the transplant becomes covered with granulations, and subsequently by a cicatrix which, as it contracts, draws the skin on the deeper surface forwards, so that the cicatrix is diminished by two-thirds of its original width.

When the parts are soundly healed the operator proceeds to close the cleft left on the lateral aspects of the nose. The transplanted portion is drawn to one side with a sharp hook, and the skin over the old bridge of the nose divided in the median line, and a quadrangular flap detached by means of two transverse incisions, made at the upper and lower extremities of the longitudinal one. The cutaneous layer of the transplant is now turned outwards, and the first-formed flap applied to its raw surface and sutured in place. The opposite side is subsequently treated in a similar fashion.

These are the steps of the operation, and the result in Israel's hands proved very satisfactory.

The manner of forming the doubly pedicled flap is important, and as it will be accomplished in a similar manner whether it is used for rhinoplastic or other forms of plastic operation, it may be described once for all.

It is first necessary to determine its exact position on the body, and then its length, breadth, and shape generally, according to the use for which it is afterwards destined, as well as in some degree upon the part of the body from which it is taken. It must not be made too long in proportion to its width, and an ample margin should be allowed for subsequent shrinkage.

I once made a very long flap on the side of the chest to

remedy a deformity caused by burn in a boy's arm. The lad was in poor condition, and the middle portion of the flap sloughed, vitiating the operation.

If I might formulate any rough rule to go by, it would be that the length of the flap should not exceed three times its own width, the measurements being taken before the operation is begun.

The lines determined on are carefully mapped out with an indelible pencil, and with a sharp knife the skin and subcutaneous tissue are cut through, down to the fascial aponeurosis, leaving a base of attachment at each end sufficiently wide to provide for the nutrition of the flap, which, when practicable, should be so fashioned as not to divide any important blood-vessels, and to be parallel to the chief vessels belonging to the part.

With the exception of its attached extremities, the flap is now carefully separated from the aponeurosis, or deep fascia, so as to include the skin and subcutaneous layer of fat. The detachment should be very gently effected, alternately from each side, without pulling or bruising; and when completely separated, a layer of oiled silk is passed underneath, and the part covered with cotton wool or an antiseptic dressing; the edges of the incision retract, and the separated flap soon contracts to half its former width, so that a large raw surface is exposed. This can often be partially closed by sutures introduced at the time of the operation. By degrees it granulates and heals up.

After an interval of one, two, or three weeks the flap becomes very thick and vascular, and one end may be safely divided and the flap turned into the place prepared for its reception.

The flap thus transplanted into the gap formed by division of an extensive cicatrix, if due care have been taken to divide or excise every portion of cicatricial material, will often stretch by degrees to twice or even thrice its original width. The flap usually adheres in a very short time, and there appears to be no difficulty or delay in the granulating surface of the flap adhering to the freshly cut surface. It is more speedy than the union

of two granulating surfaces; two weeks at least, however, are generally required for adequate vascular union to occur between the opposite surfaces.

In cases of Taliacotian rhinoplasty, and other plastic operations where the flap is completely detached from the place whence it is taken, the time at which this final severment may be safely effected is a matter of first importance to determine. Differences of opinion and practice prevail. The progress of the healing process, the amount and soundness of the union which has taken place, must be taken into account. We must avoid a premature separation, or our operation will be spoiled. Yet the constrained position and restlessness of the patient may render it needful to complete the division sooner than we otherwise would wish to do. I consider from fourteen to twenty-one days are necessary to properly vitalise the flap in its new position, and in some cases it may be well even then to divide the connecting base of attachment gradatim—one-fourth, say, each day—until the separation is completed.

I have also used an indiarubber band with advantage, to partially arrest the circulation through the base of attachment before division, and thus divert the supply of blood into other channels. These expedients serve to cause more blood to enter the flap from its opposite extremity, and to diminish, therefore, the chances of sloughing.

Maas gives an average of ten to fourteen days as the period at which a recent flap may be finally detached, and in cases where the greater portion of the surface of the new flap has healed on to the surface prepared for its reception the pedicle may be safely divided as early as the eighth day. Where only the margins are united or the pedicle is strongly twisted a much longer time, up to three weeks or more, must be allowed. If the bridge be broad the flap bears a good deal of twisting without bad consequences, but if narrow its vitality is much less well assured.

When the transplanted flap has soundly healed into the new place the opposite extremity of the flap may, if it appear

desirable, be safely made longer by extending the original incisions before it is finally separated.

For the most part, freshly fashioned flaps from the immediate neighbourhood of the defect have hitherto been employed, but recently many excellent cases have been published where nourished flaps were employed. Billroth appears to have been the first to use a granulating flap taken from one leg to cover in and heal an ulcer on the other one, and Gussenbauer and Czerny successfully employed such flaps for the same purpose, while attempts made to cover ulcerating surfaces with fresh flaps met with little success.

Wagner gives cases where he transplanted flaps from the thorax to the arm and forearm, from one leg to the other, and from the back to the ankle; and he also employed them in cases of recent injury.

Salzer and Czerny have used the skin of the thorax to transplant into cicatrices on the hand and fingers. Von Hacker transplanted a flap from the thorax to the popliteal space for a cicatrix after burn in a child of six. The contraction of the scar had bent both knees to an angle of nearly 45° , and prevented them being extended beyond a right angle. There was no sound skin left on either lower limb which could be utilised. The cicatricial tissue in the ham was first divided, and afterwards dissected away from the tendons and popliteal space. Two horizontal and parallel incisions were then made from the axillary line towards the sternum, eight inches long and nearly three inches apart, the skin and subcutaneous structures were separated from the muscular layer, and after a little trouble, the foot first, and then the leg, were passed under the bridge of the skin. The margins of the flap were sutured above and below to the separated edges of the cicatrix in the ham, the wound of the thoracic wall united as far as practicable with button sutures, and iodoform dressing applied.

A gutta-percha breastplate, with a hole in the centre for the leg, served to steady the parts and the dressing.

On the twelfth day the flap was divided on the outer side;

on the eighteenth day it was separated on the median side, and thus successfully transplanted to the ham.

A similar operation was done on the opposite side, and in this instance the complete separation was effected by the twelfth day; the result was permanently successful and the patient stood erect and walked with comfort, and both limbs could be completely extended at the knee.

In another case a flap was transplanted from the upper arm to the neck in case of burn; on the twelfth day the flap was one-third divided, and on the seventeenth day completely cut through.

For a cicatricial contraction at the elbow it is suggested that after dividing all the cicatricial bands from the tendons, a doubly attached flap taken from the thigh may be utilised to fill the gap. The hand and forearm are passed beneath the flap as far as the elbow, and the flap, which is made of suitable proportions, adjusted in the gap. The margins can be attached by sutures, and the extremities separated in succession after a sufficient interval.

In order to fill a most unsightly gap in a girl's cheek, Dr. George F. Shrady, of New York, lately told me of a case in which he had practised the following very ingenious and, so far as I know, quite novel and original method of what may be called the mediate transference of a flap of skin from the arm to the cheek, by using a finger as a medium to transport the flap from one position to the other. I am indebted to Dr. Shrady's courtesy for these details, as the case is as yet unpublished.

The arms are folded in front in such a manner as will allow the hand to rest easily with its palmar aspect against the lower portion of the opposite arm above the elbow; the other hand adapts itself in an easy position beneath the opposite elbow. This position is a comfortable and natural one, and can be well borne for a considerable time, when the limbs are subsequently bound together by plaster of Paris bandages.

The bearings having been noted, a suitably sized flap is

dissected from the outer aspect of the arm above the line of the margin of the outspread forefinger, the base of the flap downwards and the tongue up, or if found more convenient this may be reversed. The skin of the radial margin of the forefinger is then split for a sufficient length to fit the margin of the flap, and the latter, when the hand is in position, is stitched carefully to the split in the finger. This necessitates the curling downwards of the flap so that its raw surface presents outwards. "My purpose," Dr. Shady writes, "in curling the flap was to have the skin surface form the lining of the cheek. The presenting raw surface on the cheek was afterwards covered by sliding skin flaps from the neighbouring parts. In other cases it will be more convenient to have the cutaneous surface presenting externally, and this may be effected by dividing the flap at its inferior extremity.

"The flap grew nicely to the cheek, and when separated from the finger maintained its vitality. It was allowed to grow, with its upper portion only attached for some time, and then the sides and lower portions (previously free) were stitched into position. As a result of a subsequent operation for covering the granulating surface, the lower portion of the original skin flap sloughed, but enough remained to make a very presentable and useful cheek." Dr. Shady thinks the result proves that the principle is a good one. It is easy of application, comfortable for the patient, and establishes the fact that the hand can be used as a means of intermediate transplantation to almost any part of the body within reach.

A PERSONAL EXPERIENCE OF HAY-FEVER.

BY BERTRAM C. A. WINDLE, M.A., M.D.,
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As one divorced from the active practice of medicine I should have more than a passing hesitation in offering my opinions as to any disease to a meeting of men much more familiar than I am with any subject of which I might treat. But as the most suitable individual to capture a thief is allowed to be a member of the confraternity, it is perhaps legitimate to suppose that a sufferer from hay-fever, who has made the cure or alleviation of his disease a subject of considerable thought and experiment, may be able to offer a few suggestions to his more fortunate and unafflicted brethren which may be of use to them in dealing with this troublesome ailment, the number of whose victims appears annually to be on the increase. I do not propose entering into any elaborate or detailed account of the observations of others as to the disease, feeling that if any value attaches to this paper it will be due to its dealing with my own personal observations on the subject. I should also state at the outset that my remarks relate only to that ailment popularly known as "hay-fever," and not to spasmodic sneezing fits caused by ipecacuanha, linseed meal or other substances.

As to the cause of the disease I have no doubt in my own mind that pollen of some kind or another, almost certainly that of some grass or grasses, is to blame. Whether the action of this substance is mechanical or chemical I know not; but repeated observations which I shall not linger to detail have convinced me that in pollen we have the cause of the trouble. When once fully established, however, I think it probable, if not certain, that dust of any kind, or other stimuli such as bright sunlight, may produce paroxysms of sneezing. This may readily be accounted for by the hypersensitive condition of the mucous membrane produced by the complaint.

Pollen, however, is not the only thing necessary for the production of hay fever. Were this so we should all be sufferers since the grains are all around us. Like the tubercle-bacillus the pollen requires a suitable nidus or surface on which to work. I have for some years made enquiries with a view to ascertain what causes the condition of mucous membrane suitable for the action of the pollen to take effect; in so doing I have been struck by the number of cases in which sufferers were also of a gouty tendency, or at least had a gouty family history. This is so in my own case, and though not universally so, yet the great majority of those persons as to whose history I have made inquiry have afforded similar evidence. It has been stated that gout predisposes to a tenderness or susceptibility to injury of the mucous membranes, rheumatism to a similar condition of the serous. That is, for example, that the cause which will set up a bronchitis in a gouty person will produce a pleurisy in a rheumatic. The generalisation is perhaps too sweeping, but has, I think, speaking with all deference, a certain amount of truth, and adds additional weight to my hypothesis, which, by the way I do not remember ever having seen raised in any of the numerous papers which I have read upon the subject. The class of cases in which hay-fever is met with, again, is of some importance in this connection. It is, I believe, unknown amongst the working classes, and gout as Sydenham has told us attacks more rich men than poor, more wise men than fools.

I should not omit to mention that nasal polypi in some cases have predisposed to the disease, and their removal has effected its cure.

I have no experience, as yet, I am thankful to say, of the asthmatic form of hay-fever and the catarrhal is so well known that I need not delay over its symptoms. It is accompanied by several troublesome and annoying complications, amongst which I may mention irritation of the conjunctiva with inflammation and sometimes chemosis of that membrane, a perfectly maddening itching of the back of the soft palate, and an extension of the same torture to the mucous membrane of the Eustachian tube.

Violent morning sneezing—and the paroxysms after rising are generally very severe—once caused a rupture of some capillaries in the caruncula lachrymalis of one of my eyes, with subsequent engorgement of that body and a displacement of the axis of the eye, producing diplopia. These symptoms readily yielded to cold douching.

I now come to the most important part of my paper, that dealing with treatment. In considering during the course of the past eight or nine years—since I first suffered from the disease—from time to time the remedies which I had tried or proposed trying, I have been frequently reminded of that classic cold which gave so much trouble to Mark Twain, and which I cannot but believe belonged to the same class of disease.

My first attack occurred during the progress of an epidemic of measles, and I was convinced that I was about to fall a victim for a second time to that disease and anxiously awaited the appearance of the rash. As this failed to present itself I concluded that it was a cold of more than ordinary proportions, and being rather run down by overwork, I treated myself to a day off and a long walk in the country. I do not suppose that I shall ever forget that walk. I sneezed so frequently and so violently as to become perfectly prostrate, and well remember hanging myself—I can use no other expression—over the gate of a field, in a perfectly limp and wretched condition. Some faint glimmering of the real state of the case shone upon me in my second year, during which I tried a remedy, I believe of homœopathic origin, and called anthoxanthum, which had no effect at all, and subsequently hazeline. This fluid snuffed up into the nostrils has some slight effect, but it is very painful if used undiluted and nearly useless if mixed with water. I have tried opium alone and in combination with belladonna. The latter combination affords relief whilst one is under its influence, but after a three days' trial of it I concluded that it was better to submit to the disease itself, although that entailed incarceration in one room as far as possible, with closed windows and doors. Quinine in five-grain dose by the mouth has given me slight

relief; used as a snuff or as an ointment with vaseline it has always appeared to aggravate the symptoms. Blackley suggests, I do not know on what grounds, iodide of potassium and perchloride of mercury. I tried it once as a forlorn hope and without any great expectations as to its success, nor was I disappointed. It did nothing but produce a vile taste in my mouth. Another writer proposed pills of valerianate of zinc and assafoetida to be taken thrice daily, commencing about a fortnight before the attack was expected. I followed the directions carefully, but the only result was, as under some similar treatment in Mark Twain's case, to give me the odour of a turkey buzzard. I have tried various treatments for gout in moments of desperation but they afforded me no relief.

Chloroform as an inhalation was for some time my sheet anchor, and I used to cause much mirth to ribald friends by copiously anointing my pocket handkerchief with it from a bottle which I constantly carried about with me. Were there no other remedy this would be a great comfort, but there are many unpleasantnesses connected with it, notably, for instance, its bad effects on one's power for work.

Iodine as an inhalation has some little effect, but not nearly so much as a bottle of strong salts which is a great comfort. During the season I carry one always in my pocket by day and by night it lies in readiness by my bed-head. A good sniff will cut short a paroxysm at once, but it must be remembered that the salts must be as powerful as they can be made.

Cubeb cigarettes are very comforting; indeed if one be smoked in a small room and the door and windows kept closed, tolerably complete immunity for the time being is insured. My friend Dr. Carter I think first recommended Marshall's cubeb cigarettes, which are the best I know, and they have been a great boon to me. I have contemplated at times of great dejection the heroic remedies which from time to time one sees described in the medical journals, but have always shrunk from them, partly from a cowardly dislike to the pain they involve, partly from the fact that on the confession of their inventors they appear to be

by no means uniformly successful, whilst in some cases they give rise to very troublesome and distressing symptoms. I now come at last to the only real palliative I know for hay-fever. I allude, of course, to cocaine. I first tried this remedy two or three years ago, but abandoned it, as its effects appeared to be so extremely transient. Early in last summer, however, in conversation with my friend Mr. Priestley Smith, I learnt from him the greater efficacy of Howard's cocaine and determined to try it. Only those who have personally tried both preparations can justly estimate the immense difference there is between Howard's and the article usually supplied by chemists. My experience briefly is, that so far as its effect upon the nose and eyes goes, the former is a perfect palliative for hay-fever, and will enable the sufferer to pursue his ordinary avocations in comfort. As an instance, I may say, that with the assistance of a small bottle of solution for occasional use, and armed with a pair of light blue "goggles," I have been able this summer to do what I have never succeeded in doing before, that is, enjoy regular tricycling runs without any inconvenience worth speaking of. Without the use of Howard's cocaine this would have been a physical impossibility for me, as, even apart from the constant sneezing, the eyes become, when not under the influence of cocaine, and even when protected by large glasses, so chemosed and suffused by the rapid movement through the air and the dust, as to render one almost blind.

I have tried several methods of using the cocaine—tabloids, so much recommended by some are very handy to carry about, and the salt appears to keep well, but they have one great disadvantage for nasal use, which is that the cocaine does not become sufficiently widely distributed over the mucous membrane to produce complete anæsthesia. I have also tried cocaine solution in a small douche. This is subject to the objection that one cannot very well carry it about in one's pocket, still less can one conveniently use it in a crowded thoroughfare as may be necessary. Moreover, it is I think, a rather unpleasant mode of administration and possesses no advantages over that which I always employ.

I use a solution of 4 % strength in distilled water, which may require to be increased to 5 % towards the end of the season. When necessary I pour five or six drops into the palm of the left hand and sniff it up into the nostrils. By throwing the head slightly backwards and from side to side, the solution may practically be made to reach all parts of the cavity. At the same time moistening with the solution the tip of the little finger, I introduce a drop or two into the inner canthus of either eye. For the first few weeks of the season, immunity is secured by this method, even in a severe case such as mine, for two or three hours. When the effect wears off the remedy must be re-applied.

If cocaine had only this local effect, there would be very little more to say, than that a palliative is at hand, which is for all practical purposes perfect.

But there is unfortunately another side to the picture. Besides its local effects cocaine is a powerful nerve stimulant. I am not now, it must be understood, alluding to the troublesome effects produced on some individuals by a single dose. I have no experience of any such effect upon myself, and this is a personal narrative. I am now speaking of the effects of its continued use.

During the first fortnight or three weeks of the administration of cocaine, I can scarcely describe the delightful effects which it produces. It removes within a minute or two after its absorption all sensation of fatigue, bodily and mental, and produces a most pleasurable capacity for work apparently. I say apparently, because, I doubt if it would be possible to do anything which required great concentration of mind whilst under its influence. As a matter of fact, I have found it very hard to do original work under these conditions. During this time too there is very little reaction after the use of the drug.

But after a short time conditions change, the drug begins to act less powerfully, requiring a stronger solution and more frequent application, and coupled with this there is experienced a great reaction. It is difficult again to give an idea of the amount of this. I can only say that during the period alluded

to, especially if one has necessarily a good deal of work to do, the prostration, I can use no other word, which follows upon the use of the drug, is most severe. This, however, is not all, for the appetite is decreased and sleeplessness induced. The action of the heart becomes rapid and unsatisfactory and the whole nervous system is brought into a highly-strung, over-wrought condition. I can assure those who hear me that I have not overdrawn this side of the picture. So strongly is it impressed upon me, that in spite of the great annoyance and even suffering produced by hay-fever, and the relief afforded by cocaine, I am very doubtful whether I shall venture to run the risk of using it during another season.

I can easily understand from my own experience what is meant by the cocaine habit, and one of my chief reasons for reading this paper is to lay my views before my brethren in the profession as a warning against the rash use of the drug. I have seen it stated that the seat of first inoculation is the inner canthus of the eye, and I believe this to be true in some cases, my own included, though not in all. In these, I think, some hope of relief is afforded by the suggestion which appeared in the columns of the British Medical Journal, that the conjunctiva should be bathed with some solution (a weak preparation of corrosive sublimate was that mentioned) several times a day for some weeks before the hay-fever season. I certainly intend to try the experiment next year, as also that of painting the nostrils with glycerine of carbolic acid during the same period, with a view to deadening the surface of the nasal mucous membrane.

In conclusion, I should say that the lesson which I have learnt is that whilst cocaine as a remedy affords a palliation, perfect for all practical purposes, it is a drug whose use is accompanied by so many collateral disadvantages as to make it very doubtful as to whether its continued exhibition, during five or six weeks, is a line of treatment which it is safe or justifiable to enter upon.

RETROSPECT.

GYNÆCOLOGY.

BY JOHN W. TAYLOR, F.R.C.S.

Prof. Vulliet's method of Dilatation.—When Prof. Vulliet, of Geneva, was here in the summer he stayed a short time with the present writer and entered into a detailed explanation of his method of dilatation. Some particulars of this and of his experience of the Swedish Massage treatment for uterine affections were taken down at the time and may be interesting to the readers of the "Review."

Small tampons or pads of antiseptic cotton, varying in size from that of a bean to that of a walnut, are made ready for medication, and to each of these a double thread is attached. They are then plunged in an ethereal solution of iodoform (1-10 to 1-30) and afterwards allowed to dry. The ether evaporates leaving a fine layer of iodoform on the surface of the tampon. The tampons so prepared are kept in "stoppered" bottles, and are the only special instruments employed. Their use is as follows:—

The patient is placed in the genu-pectoral position and the vagina and uterus well douched with sublimate solution (1 in 5000). One of the smallest-sized tampons already described is then pushed well into the uterus with the sound, "like a dentist filling a tooth." Sometimes two sounds are used, one in each hand. This may be followed by another or by others. As much as can be pushed into the uterus is used.

The next day (or before this) the vagina is again douched, the plug removed, the douch repeated to the inside of the uterus and a large plug inserted as before. This process is repeated until the cervix is fully open and "until the fundus of the uterus can be distinctly seen."

In many cases of uterine myoma this is the preliminary to treatment of the myoma. An incision is made in the mucous membrane over the growth and the plug is repeated. On removal of the plug the incision may be repeated or enlarged. Natural enucleation is assisted by the application of Faradism to the neighbourhood of the tumour, but the myoma itself is not touched by the surgeon until it can be thoroughly removed. When ready for this the dilatation is so complete and manipulation so easy (according to Prof. Vulliet) that the removal is usually attended with but little risk or difficulty.

At first occasional pyrexia occurred during treatment. This was found to be mainly due to the excessive use of iodoform, the whole of the cotton used being formerly saturated with the drug. Since limiting its use to the surface of the tampon no fever has been noticed.

Occasionally when the uterus is hard Prof. Vulliet commences with a tent. To those who have never used this method, but one conversant with other means of dilatation, Prof. Vulliet advises the commencement of dilatation, by the way best known to themselves, and to continue it, when advisable, by his own.

Swedish Massage and Gymnastic Treatment for Chronic Pelvic Inflammation and for Prolapsus (the method of Brandt).—When noticing some of the earlier reports of this method of treatment in the "Review" for November, 1887, I wrote that more information was required. The results claimed were so remarkable, especially in the case of uterine prolapse, that the accounts hitherto published were felt to be altogether too meagre to be adequate to the subject. Since that date an account of a case treated by this method has been published in the *Centralbl. für Gynäk.* by Prof. von Preuschen, of Griefswald, and an editorial notice of this given in the *New York Medical Journal*.

In addition to the sources of information here mentioned I have had the opportunity of meeting and conversing with those who have specially studied the treatment and who are carrying it out daily in their practice.

The following is a brief outline of the manipulations used in cases of prolapse :—

1. The uterus is thoroughly replaced in a state of normal anteversion and pushed or held as high as possible in this position by the fingers of an assistant.

2. Abdominal massage is then performed with both hands by the surgeon. When the abdomen has become soft and plastic to the touch, the fundus of the uterus is caught, as it were, between the two hands, one being on each side of the rectus abdominis, and the uterus is raised still higher. This is repeated several times.

3. The assistant's hand being withdrawn and the uterus allowed to fall into its natural position, bimanual massage is performed by the surgeon in this way :—The first and second finger of the left hand are placed in the vagina high up in the pouch of Douglas, holding the uterus in normal anteversion ; the right hand on the abdomen then strokes or gently rubs the fundus towards the pubes.

4. Gentle bi-lateral massage is made from within the vagina towards the perinæum, bringing within the field of direct manipulation some of the fibres of the levator ani muscle.

5. Advantage is taken of associated muscular action. The knees are separated widely by the surgeon, the patient resisting. This process is repeated frequently so as to give special exercise to the adductor muscles. This method is then reversed ; the knees are brought together by the surgeon, the patient resisting as much as possible. (This is stated to bring into action not only the femoral adductors and abductors but also the muscles forming the floor of the pelvis, and especially the levator ani muscle, and to cause contraction of the vagina and consequent strengthening of the pelvic floor.)

6. The patient is turned over on her abdomen and rapid "tapotement" is made over the lower part of the spine and buttocks.

This completes the course used at each sitting. Very good results are stated to have been obtained by this method in cases

not only of prolapse merely but in cases where there has been absolute protrusion. Some cases of this description alluded to by Prof. Vulliet are said by him to be now walking about with the uterus small and in its normal position, and this without any other treatment than the massage; no pessary nor accessory method of treatment having been employed.

Faradism in Prolapse.—In the American Journal of Obstetrics for June Dr. Laphorn Smith enters into a detailed anatomical argument on the muscular nature of the uterine supports—a fact which has never been seriously disputed—and points out that prolapse and displacement are mainly due to muscle-failure, a necessary consequence that is too often forgotten.

Dr. Smith makes this the basis on which to found an article in favour of the treatment of uterine displacements by electricity, Faradism being mainly advised, with a coil whose wire is short and thick so as to produce a current of quantity. Two cases only are cited in support of the Faradic treatment, but these, so far as they go, appear to be examples of undoubted improvement following the use of the current of quantity by the bi-polar vaginal electrode.

Anyone carefully following the arguments contained in this paper in favour of the use of electricity will see that they apply with equal or greater force to the use of massage and gymnastics. The intelligent use of both methods combined with, or subsequent to, a thorough restoration of the perinæum where this is necessary, will probably give the most perfect and lasting results in cases of prolapse.

CARDIAC DISEASES, ETC.

BY EDGAR HOGBEN, B.A., M.D., M.R.C.P.

The Vessels of the Valves of the Human Heart.—Are there any vessels in the valves of the human heart? Simple as the investigation of this question might appear by anatomical methods, it would seem that the subject is still under discussion. The frequency of valvular lesions in man and other animals endows this point with special interest from a pathological aspect.

Luschka was the first anatomist who directed his attention to this matter. He concluded that the vascular supply of the auriculo-ventricular valves was derived—1, from vessels descending from the fibrous ring towards the free border of the segments; and 2, from vessels which start from the “cellular tissue” of the muscoli papillares, running up through the chordæ tendineæ, and reach the membranous flaps of the valve where they anastomose with the descending vessels. Luschka makes no mention of the sigmoid valves in his earlier works, nor does Gerlach, nor Kölliker. Some years after, however, Luschka published a series of works confirming and completing his earlier labours. In describing the vascular supply of the sigmoid valves he describes hæmatomata of these structures as a result of rupture of their intimate vessels. He says there is a network of vessels with very irregular meshes ramifying throughout the thickness of the sigmoids. Luschka’s statements have never received absolute confirmation. Many distinguished authorities, while admitting the presence of blood vessels in the auriculo-ventricular valves, continued to regard the aortic and pulmonary as non-vascular.

Langer, in 1880, pointed out that the endocardium is not vascular in man. There are vessels in the connective tissue which separate it from the myocardium, but none in the endocardium proper. Everyone agrees on this point. It is curious

to note that the rabbit differs remarkably in the vascular supply of its auriculo-ventricular valves from other animals of the same class, such as the horse, dog, sheep, and pig. In the latter all parts of the valves including the chordæ tendineæ contained vessels. In the rabbit, however, and in man, Langer is positive that no vessels exist in the chordæ tendineæ, and that those in the membranous portion are few and isolated, being derived from arterioles of the supporting tissue of the myocardium.

Coen studied especially infantile and foetal hearts, and states that he was quite unable to detect any vessels in the semilunar valves. As to the auriculo-ventricular, he agrees with Luschka, except in so far that he could not discover vessels in the chordæ tendineæ. His conclusions are that isolated vascular branches occur occasionally but rarely in the elastic strata. Ramifications which touch the free border are rarer still, and it is *most rare* to find vessels in the chordæ tendineæ.

The most recent researches on this subject have lately been conducted by Mons. J. Darier in the Laboratory of Histology of the College of France. In a very interesting paper which he communicated to "Archives de Physiologie normale et Pathologique" he describes carefully the methods by which he conducted the investigation and the results at which he arrived. Almost all his injections were made with Prussian blue and gelatine. Blue is a better contrast than red with the yellowish tinge of the tissues. Fine injections of the heart are extremely difficult, and this is especially the case with the human subject, in which the heart removed from an autopsy always contains clots of blood and air bubbles. After staining and fixing in Müller's fluid he stretched and dried the valves, and was able to obtain a satisfactory degree of transparency for microscopic examination. He considers the question of the sigmoid valve segments as finally settled. He agrees with Langer and Coen that in man the aortic and pulmonary valves never contain vessels in their normal state. There is no difference between the valves of the adult and infant. As to the auriculo-ventricular valves their vascularity is almost the same in the case of adult

hearts and those of children more than two years old. In man in the normal state he says there are never to be found vessels in the fibro-elastic membranous portion of the auriculo-ventricular valves. In the auriculo-ventricular valve of the young infant an apparent contrast, set up by the fact that they are more vascular, is shown not to be real. The fibro-elastic portion in the very young is less extensive and the muscular part is relatively greater. He insists that there are no vessels in the fibro-elastic part. In the pathological state we often find vessels throughout all the extent of the aortic, sigmoid, and mitral valves. These vessels must, according to Mons. Darier, be regarded as the result of a new formation under the influence of inflammation. The conditions which favour the development of this pathological vascularization are not properly understood, and deserve more attention at the hands of pathologists. Hæmatomata at the edges of the valves in the newly-born infant are probably the result of a process of degeneration of the vessels which exist in the valves in their foetal state.

Cardio-vascular nutrition and its relation to sudden death—

Dr. Frederick W. Mott, of Charing Cross Hospital, has written upon a number of cases of sudden death due to cardiac or aortic degenerations (*Practitioner*, Sep. 1888). In the case of heart disease fatty and fibroid degeneration form the principal causes of sudden death. The fatty change occurs in pernicious anæmia, severe anæmia, anæmia following severe hæmorrhage, high temperature, chronic Bright's disease, and phosphorus poisoning. Atheroma and calcification of the coronary arteries are by far the most important of the local causes of cardiac failure. The analogy of the coronary arteries to the vasa vasorum, which are found in all blood vessels of a certain calibre, is supported by the fact that coronary sclerosis is most frequently found associated with cardiac degenerations in the same way that periarteritis of the vasa vasorum is observed in connection with atheroma of the aorta. Dr. Mott believes that the intra-vascular blood has little, if anything, to do with the

nutrition of the internal coats of the heart and great vessels. The muscoli papillares, columnæ corneæ, and trabeculæ of the heart are the structures which first show signs of fatty degeneration when there is obstruction of the coronary circulation. In a similar manner the subendothelial coat of the great arteries will be the first to experience the effects of malnutrition when there is periarteritis of the vasa vasorum.

Dr. Steel, in a paper on *Mitral Obstruction and Regurgitation* (Medical Chronicle, Manchester, May, 1888), finds an explanation of the accentuation of the first sound in cases of mitral stenosis in the fact that systole takes place before the left ventricle is fully distended. The auricle has not emptied itself before the ventricle contracts, and the current of blood flowing from auricle to ventricle is suddenly arrested by the contraction of the ventricle. The murmur is thus abruptly terminated by the first sound at the commencement of ventricular contraction. In discussing the causation of hæmic murmurs Dr. Steel does not accept the well-known explanation of Balfour, that the basic (apparently pulmonic) bruit is mitral regurgitant, conveyed to the left appendix auriculi. He revives a theory originally advanced by Sir Dominic Corrigan, that "veines fluides" are generated at or beyond the orifice of the pulmonary artery. This theory is also applicable to the functional aortic systolic murmurs often heard in anæmia. The apical systolic murmur he refers to dilatation of the left ventricle.

Myocardite Infectieuse diphthérique.—Mons. Paul Huguenin contributes an instructive case of myocarditis due to diphtheria (Revue de Médecine, Paris, Oct., 1888). The patient, a man of robust build but of alcoholic habits, was admitted under Prof. Hayem with diphtheritis faucium. He died of cardiac failure after sixteen days stay in hospital. The autopsy revealed sub-pericardial ecchymoses, and arterial thromboses in the walls of the left ventricle. Microscopic examination showed parenchymatous and interstitial myocarditis with endarteritis proliferans of the coronary arteries. There was granular degeneration with loss of striation of the muscular fibres. The granular matter

which arranged itself around the nuclei of the muscle cells presented a fusiform appearance. Certain fibres also exhibited the change known as hyaline or glassy degeneration of Zenker (not Zenter). Death from cardiac failure is not uncommon in diphtheria. The patient may succumb early in the disease from acute myocarditis, or during convalescence from the chronic form attended by atrophy of the muscular elements.

Is Pernicious Anæmia a Special Disease?—Dr. Hunter, in the Practitioner, August, 1888, concludes that the disease which is known as pernicious (if not necessarily *progressive*) anæmia must, on clinical and pathological grounds, be assigned a separate existence as a form of idiopathic anæmia. In other words, pernicious anæmia is not a form of symptomatic anæmia. The following features he cites as peculiar to this kind of idiopathic anæmia. 1. The marked oligocythæmia, which in certain cases is independent of the hæmorrhages. 2. The relative richness in hæmoglobin as contrasted with the high degree of oligocythæmia. 3. The presence in the blood of distorted corpuscles (poikilocytosis) and small yellow cells (microcytes). In pernicious anæmia the changes in the blood are essentially *hæmolytic*; in other diseases with symptomatic anæmia the blood-changes are due to defective nutrition, failure in *hæmogenesis*.

Dr. West has written a paper on *Cardiac Complications in Rheumatic Fever*, based on six years' statistics at St. Bartholomew's Hospital (Practitioner, August, 1888). The cases suggest that the risk of cardiac complications in rheumatic fever is greater than some of the published statistics seem to show. An interesting fact is revealed in the larger proportion of women affected by mitral lesions. The proportions were reversed in aortic disease, the percentage of men being higher. Pericarditis occurred in 7·5 per cent. of the cases, being more frequent in males. The tables also exhibit the greater liability and increased risk of fatal result in the young.

Cardiac Dyspnœa.—Fraenkel (Berliner Klin., Wochenschr., 1888), distinguishes two forms of cardiac dyspnœa, the con-

tinued and the asthmatic. The former is typically observed in mitral stenosis, with pulmonary engorgement due to imperfect compensation. The asthmatic form occurs in cases of hypertrophy of the left ventricle with arterio-sclerosis. Uræmic asthma he regards as really cardiac in origin.

ON CHILDREN'S DISEASES.

BY ANNIE E. CLARK, M.D.

Adenoid Vegetations in Children, their Diagnosis and Treatment. By Franklin H. Hooper, M.D. (Boston Med. and Surg. Jour., March 15th, 1888.)—Dr. Hooper says that the adenoid vegetations so frequent in the naso-pharyngeal cavity of the child are too often overlooked. In his experience two years is the average age for the first symptoms to appear. The initial cause may have been an ordinary cold, but the child soon shows a tendency to repeated "colds in the head" which increase in frequency and duration, there is difficulty of breathing, especially at night, a dull heavy look about the eyes, and, in the majority of cases, a certain amount of deafness. By the time the child is six or eight years old, it will breathe with its mouth open, its facial expression is dull and stupid, or even idiotic—the half-open mouth is one of the constant symptoms. The child never sleeps soundly, its laboured breathing at night, especially when it has a fresh cold, is distressing to hear; the respiration will sometimes cease for a few moments and then recommence with the same noisy character as before, or the child wakes bathed in perspiration, screaming and frightened. In the morning the mouth is dry and the lips parched; during the day the child is languid and irritable. Most of the children are deaf, and their voices are stuffy and thick. At school, they are scolded by their teachers for inattention. Inspection of the cavity of the mouth usually reveals a high palatine arch. The

soft palate looks thick and seems bulged forward and immovable. The faucial tonsils are apt to be simultaneously hypertrophied, and the symptoms which are really peculiar to the adenoid vegetations have been wrongly attributed to the enlarged faucial tonsils. To be certain of the presence of adenoid growths, when posterior rhinoscopy is not practicable, the left forefinger should be passed gently behind the soft palate. The growths will be felt on the posterior wall and vault of the pharynx as soft velvety masses, bleeding readily on touch. The difference between the smooth walls of a normal cavity, and one blocked with vegetations, is marked, but some children contract their soft palate with such force as to impede the movements of the finger, and the contraction of the muscular fibres of the palate itself may feel like a circumscribed tumour. Dr. Hooper considers it a waste of time to attempt to reduce these growths by local applications, but advises that they should be at once removed. To do this he prefers to anaesthetize the child and remove the growths with post-nasal forceps, supplemented, when necessary, with a post-nasal curette or steel finger nail. The improvement in the child on the removal of the growths is most striking, especially as regards the character of the breathing, quality of voice, hearing, and intelligence.

Treatment of Congenital Hernia. By Lewis W. Marshall, M.D. (Brit. Med. Jour., May 19, 1888.)—Dr. Marshall treated forty-one cases of congenital hernia during 1887 by the wool-truss first suggested by Mr. Coates of Salisbury. In every case he found congenital phimosis or imperfect urethral opening co-existed. Of the forty-one cases, twenty were cured at the end of the year, twelve were not well, and nine lost sight of. In all the twelve cases not well, the urinary condition had not been efficiently dealt with, in one case pertusis was also present, in another obstinate constipation, and in several general malnutrition. Dr. Marshall considers that this set of cases shows that the urinary difficulty is the primary factor in the production of congenital hernia in the male, and that if it is duly recognised and corrected, the pressure of the wool-truss is ample to ensure

closure of the canal in all cases in which nutrition is well maintained.

Jeffries on the Sterilization of Milk and Foods for Infants. (Amer. Jour. Med. Scien., May, 1888.)—Dr Jeffries' attention was called to the state of the milk supply of Boston, by the severity and prevalence of summer diarrhœa among infants. He found that though "fresh each day" the milk was decidedly acid, and by the time it was given to the infant, curdled when heated. He proceeded to make a series of experiments on the sterilization of milk and other infants' foods, and found that milk was efficiently sterilized by steaming for fifteen minutes, whilst steaming changed the milk less than boiling. He therefore, directed that all milk used for the infants should on receipt be steamed in a skiller set into the top of a teakettle, after this it was to be kept covered, and when possible on ice. The result was that instead of staying at the point of death, the little patient's began to pick up and were soon well, the stools first becoming light and then yellow in colour.

On the Treatment of Habitual Constipation in Infants.—By Eustace Smith (Brit. Med. Jour., July 7th, 1888) Habitual constipation in infants at the breast is sometimes due to a deficiency of sugar in the breast milk; at others, to a milk the curd of which is firmer than is common in human milk. In hand-fed children an excess of starch in the diet, or any food which overtaxes the child's digestive power and thus burdens the alimentary canal with a large undigested residue, may set up the costive habit. A mild catarrh of the intestinal mucous membrane results; and the fæcal masses, rendered slimy by the secretion, afford no sufficient resistance to the contractions of the muscular coat of the intestine, which slips ineffectually over their surface. Another cause of constipation is dryness of the stools, generally due to insufficiency of fluid taken. Constipation is often made more obstinate by an infant's own effort to delay relief, because of the suffering caused by the undue distension of the sphincter by the hard, costive motions. Torpidity of the bowels due to the use of opium must not be

forgotten. Dr. Smith says that an infant whose bowels are habitually costive is not necessarily injured by the want of a daily relief, but often it will cause flatulent distension, colicky pain, restless sleep, furred tongue, and loss of appetite; whilst the straining may prolapse the bowel or cause the navel to start.

Attention to feeding and clothing is of as much moment as drugs. A teaspoonful of syrup three or four times a day will often correct constipation of a baby at the breast; or, if the motions are hard and dry, a little plain filtered water. Exposure of the limbs and belly may cause the constipation due to mild intestinal catarrh; in such a case the thighs and legs, as well as the belly, must be well covered with flannel. In the diet, excess of starch must be avoided. Mellin's food is useful as it has a gentle laxative effect, but it does not prevent the curdling of milk in the stomach, this can be ensured by diluting the milk with barley-water. The peristaltic action of the bowels can be stimulated by friction and kneading of the abdomen in the direction of the colon. Suppositories and injections though useful in producing an immediate evacuation of the bowel in no way tend to promote regular action in the future, and large injections of fluid, if frequently given, are distinctly hurtful by dilating the bowel and weakening its muscular coat.

In remedies by the mouth, strongly-acting purgatives are worse than useless. The aim should be to find the smallest dose which will awaken a normal degree of energy of peristaltic action, and combine with it a remedy, which tends to give tone to the muscular coat of the bowel. A useful mixture of this kind is composed of half a drop of tinct. of nux vomica, ten drops of tinct. of belladonna, twenty drops of infusion of senna, made up to a fluid drachm with infusion of calumba. This, at first given three times a day before meals, will soon be only needed once at bed-time.

SKIN DISEASES.

BY R. M. SIMON, M.D.

The Kreuznach Mother-Liquor and Calcium Chloride in the Treatment of Skin Diseases.—Dr. E. Lier finds that the value of Kreuznach Mother-Liquor depends on chloride of calcium, of which it contains nearly 350 parts per thousand. He says it may exert primary or superficial, and secondary or deep effects. The first is procured by using for a short time baths of under 90°, with or without the addition of mother-liquor, and applications of a paste of oxide of zinc, and terrasilic, āā 50·0, vaseline 150·0, mother-liquor 250·0. This treatment is useful in erythema, moist eczema, impetigo, psoriasis, and tubercular glands. The deeper effects are obtained by the use of warm baths, 93° to 99°, of longer duration, with the addition of a large quantity of mother-liquor, and also by using compresses of the same, either pure or slightly diluted. This treatment is indicated in pruriginous and keratoid eczema, ichthyosis, scleroderma, and all forms of skin diseases in which there is much infiltration or induration of the cutis.—*Centralblatt für die Gesamte Therapie*, July, 1888.

Treatment of Callosities, Corns, and Warts.—Rosen has used with good results salicylic acid, in powder, covered with moistened bandages. He proceeds as follows:—He first moistens the diseased spot with an aseptic solution, and then covers it with a thick layer of salicylic acid. Over this he places some very fine borated lint in four thicknesses, and covers the whole with a piece of gutta percha. The dressing must be left for five days, and unless the patch be over indurated, it will probably be cured. Should this not be the case, the procedure must be repeated, and the dressing left undisturbed for a longer period.—*Münschen Med. Wochens.*, No. 28, 1888.

Alterations of the Skin which are produced at the time of Puberty and at the Menopause.—A very interesting resumé of the

above conditions is published in the Journal of Cutaneous and Genito-Urinary Diseases, August, 1881. The most common affections are:—1. Hyperidrosis; 2. Erythema; 3. Eczema; 4. Acne; 5. Erysipelas; 6. Urticaria; 7. Pemphigus; 8. Pruritus; 9. Pigmentary Hypertrophies

Hyperidrosis.—This is frequent at the menopause, less common at puberty, and may be local or general. Local hyperidrosis is most commonly found upon the face, which becomes red, turgescient, and covered with a hot sweat, but it may occur anywhere. Generalized sweating is quite frequent, and its appearance is often preceded by a slight shivering and a sensation of swooning.

Erythema.—This often follows hyperidrosis, and a transient form, erythema fugax, may be produced by moral emotion and vasomotor troubles.

Eczema.—Hyperidrosis may set up eczema, but this often occurs independently, especially at the menopause. In the rheumatic diathesis it is not infrequent to find a history of an attack of eczema at puberty, and its reappearance at the menopause. It often attacks the ears, face, scalp, and feet, but eczema of the genitals is often observed at the critical age. It begins upon the labia majora, and spreads to the neighbouring parts, occasionally affecting the anterior part of the vagina. It is very severe on account of the great itching; it has evening exacerbations, and the itching is not less than in pruritus, an affection which it often succeeds.

Acne Rosacea.—Acne vulgaris and acne rosacea are very common at puberty, and according to Kaposi they are due to the increase of function of the sebaceous glands, coinciding with the active development of the hairy system. The small white pearly form of acne vulgaris is most common, but the indurated form is not infrequent. It often disappears after marriage, and Hardy suggests a connection between continence and the persistence of acne. The menopause is often associated with increase of pre-existing acne vulgaris and an outbreak of rosacea.

Pemphigus.—A bullous eruption occurring in young girls between the ages of 14 and 20 in whom menstruation has been interrupted, has been described. Dr. Jackson Cummins has also recorded a case of a hysterical woman who suffered at the menopause a series of outbreaks of pemphigus.

Pruritus.—At puberty pruritus of the vulva frequently occurs, usually before menstruation, but this is more common at the menopause. This is often very severe, occurs commonly when the patient is warm in bed, and takes place in crises. The length of the attack varies from fifteen to twenty times an hour, and several attacks may occur during the night. Pruritus often accompanies the genital form, and may persist from six months to two years. Diabetes and eczema must be excluded before a diagnosis of menopause pruritus can be made.

Urticaria.—The relation of uterine affections to outbreaks of urticaria is well known, but its dependence upon the physiological changes at puberty and the menopause is not so well known. It is a far more intractable disease, when occurring at these periods, than when it is dependent upon gastric disturbances.

Pigmentary Hypertrophies.—Pruritus and its consequent scratching often produce at the periods of puberty and menopause, especially the latter, hypertrophies of pigment, especially about the genitals following idiopathic pruritus without cutaneous lesions. It is the consequence of repeated hyperæmia in a marked degree, of the capillary vessels. After eczema of the genitals a passing pigmentation is often left behind. Rayer and others have noted the singular fact of a black or bluish coloration of the skin in cases of sudden appearance of the menopause. A case of dyschromia of the whole skin was observed by Lyons of Dublin, and cited by Barié (*Gaz. des Hôpitaux*, 1858.) The patient was obliged to bathe over twenty times a day. Lyons attributes the phenomena to an excretion of pigment. It is generally admitted that chromidosis appears at the approach of the menses, under the influence of menstruation and at the time of the menopause as well as during pregnancy.

Erysipelas.—Tissot reports a case in which erysipelas occurred

fifteen times during the two years succeeding the menopause. These attacks became less frequent in the third and fourth years, and in the fifth there was but a single attack. Bekier observed a woman of 54 in whom the monthly flow was replaced at correspondingly regular intervals by erysipelas of the face, usually attended with coma. At the menopause numerous such cases have been reported, and they are not infrequent at puberty. They are sufficiently explained by the many parts of entry open to the microbes at this time after the rupture of the vessels, by fissures, excoriations, and results of scratching.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The second General Meeting was held on Thursday, November 8th, Dr. T. W. THURSFIELD (President) in the Chair.

Dr. J. G. Thompson, Dr. E. T. Roberts, and Mr. E. Teichelmann were elected members of the Branch.

Dr. Saundby reported that the case of Acromegally shown at the last meeting had since died. An incomplete *post mortem* examination was made, a report of which will be published shortly.

Dr. Barling showed a woman suffering from lupus erythematosus. Pyrexia had been a prominent symptom. She came of a phthisical family. Great improvement had followed the local application of cod liver oil, and generous feeding.

Mr. Bennett May exhibited a piece of bone more than one inch long and half an inch broad which he had removed by tracheotomy from the larynx of a girl. The bone had been impacted nearly three years. The patient, also shown, had completely recovered from the operation.

Mr. Lloyd showed, for Dr. Suckling, a woman 46 years of age

suffering from pernicious anemia of five months' duration. The number of red corpuscles had risen from 23 to 60·4 per cent. during the administration of increasing doses of arsenic.

Mr. Lloyd presented, for Dr. Suckling, a case of gangrenous varicella in a child two years of age. The disease had existed for two weeks only, and was confined to the back, head, and legs.

Mr. Jordan Lloyd showed a man, 63 years of age, whose external carotid artery he had tied thirteen days before. The patient suffered from a traumatic aneurism of the internal maxillary artery. On August 11th of this year he was wounded in the left cheek by falling on to a steel hay fork. Bleeding was free; the resulting wound healed primarily; but a few weeks later a pulsating swelling began to form deep in the cheek, which continued to increase. The vessel was tied behind and below the angle of the jaw, probably between the facial and lingual branches. Pulsation at once ceased in the swelling and has not returned. The tumour is shrinking rapidly.

Professor Windle read a paper on "A Personal Experience of Hay Fever," which we publish elsewhere.

Dr. Thursfield spoke of the value of a personal experience in forming opinions upon a disorder. He considered the cocaine more serious than the morphia habit.

Mr. Priestley Smith had personal experience of hay fever. His attacks were usually preceded by a dryness of the nasal aperture, and he found the inhaling of a moist atmosphere would often abort them. The variations in the action of different samples of cocaine were very striking.

Dr. Lycett referred to Sir Andrew Clarke's recommendation of the local application of carbolic acid.

Dr. Saundby had personal experience of paroxysmal sneezing, which had been practically cured by the removal of a long-overlooked nasal polypus. He had found most benefit from small doses of morphia.

Dr. Barling had sometimes seen benefit follow the cauterisation of the inferior turbinated bone.

Mr. Jordan Lloyd called attention to Dr. Noakes' writings on

this subject, and asked Professor Windle whether his own case would support them.

Dr. E. Underhill had personal experience of the value of morphia. He had found arsenic of signal service.

Dr. Windle briefly replied.

Dr. Lycett read a paper entitled "Remarks on Empyema." He said there is a tone about the writings of medical authors which marks a want of confidence in the immediate safety, and an uncertainty regarding the beneficial results of paracentesis which causes a conscientious person to be undecided, and doubt whether his advice upon the question of an operation is correct in the interest of the sufferer, so that there becomes engendered a desire to avoid it. Thoracentesis is too frequently employed as a *dernière resort* with a resulting mortality which has placed it in a false position. The paper was based upon an experience of 26 operations on 15 persons, abstract notes of which were read. Women are less frequently affected than men; girls seem to enjoy immunity. Of 17 severe neglected cases, 6 died. Aspiration by Dieulafoy's instrument is the best procedure to employ at first. Great attention should be paid to the airtight construction of the instrument in its every part. Life may be sacrificed by introduced air converting serous into purulent contents. Dr. Lycett showed and described modifications of Dieulafoy's aspirator, and also an instrument to facilitate the introduction of a drainage tube through the chest. When puncturing the chest wall the trocar and cannula should pass through an antiseptic pad, retained firmly against the skin previously cleansed. With due precautions the operation of thoracentesis *per se* is quite harmless. Time did not admit of discussion on the subject of drainage in empyema.

Mr. Jordan Lloyd commented on the large proportion of Dr. Lycett's cases of empyema which were cured by simple aspiration. He had always taught that pus in the chest usually called for free incision.

Mr. Bennett May considered that aspiration was dangerous only when large quantities of fluid were withdrawn. Empyema

in old people was almost necessarily a fatal condition. He referred to a case of double empyema which he had treated successfully.

Mr. Langley Browne thought that if the air was purified by passing through medicated antiseptic wool, its free entrance into an empyematous thorax was salutary rather than injurious.

Mr. Barling believed in the omnipresence of pus-forming germs in the atmosphere of all large towns, and in the danger of their entrance into the thorax, or into joints at the time of operation.

Mr. J. W. Taylor asked whether any member had personal experience of the method devised by Dr. Robertson of Oldham for the opening and subsequent treatment of empyema without allowing air to enter the thoracic cavity at all.

Dr. Lycett, in reply, said that cure had followed aspiration only in the empyemas of young persons. There was no danger in aspiration whatever when cases were operated on early.

MIDLAND MEDICAL SOCIETY.

The second Ordinary Meeting was held on Wednesday, November 28th, Mr. E. B. WHITCOMBE in the Chair.

The following gentlemen were elected members: Messrs. J. A. Brown, M.R.C.S., and E. B. Hill, B.A.; and Drs. James Ross, N. S. Manning, and Mahood.

Dr. Rickards showed a patient suffering from gallstones. A married woman suffered for eight months from severe pain in right hypochondrium; a swelling was found below the right costal arch. This tumour disappeared after manipulation and reappeared on several occasions. After each manipulation there was biliary vomiting, pain, and hæmaturia. Five gallstones were shown, each one of which had given rise to the above train of symptoms at the time of its escape from the gall-bladder,

Dr. Suckling showed a living case of intra-cranial growth with peculiar percussion note, also a patient with well-marked mercurial tremors.

Mr. Haslam showed a case of arrested development in the left radius of a sixteen-year-old girl, the result of an injury three years before.

Mr. Eales exhibited a man sixty-two years of age who had been blind from cataract since birth. He had recently had one of his cataractous lenses removed, and for the first time in his life was able to distinguish objects about him. His field of vision was extensive in all directions.

Mr. Jordan Lloyd then read a paper on "Fifty Operations for the Relief of Breast Tumours." These comprised—carcinomas 32, sarcomas 5, adenomas 6, myxomas 1, and cysts 6. Many cases of cancer had come under his care which were beyond operation, but these were not included in the above figures. The author briefly referred to the various varieties, but dwelt at greater length on the carcinomas. He called attention to the influence of age, child-bearing, abscess, injury, heredity, &c., upon the development of cancers, and advocated early treatment by excision as the only justifiable procedure. In doubtful cases it was better to excise before the malady had had time to become constitutional than to wait for symptoms—such as enlarged lymphatic glands, flesh loss, skin adhesion, &c.—upon which to establish a positive opinion. When cases of cancer were treated by removal at their earliest inception, our views on this disorder will be revolutionised. That cancer was a local disorder at its origin, nearly all authorities were now agreed. It was the only view upon which a rational treatment could be framed. Early diagnosis was of the first importance, and what we had to decide *at once* in every breast-swelling was whether or not it was malignant. If we could not come to a decision, the sooner the tumour was exposed by incision the better for the patient. Innocent growths must then be treated according to their character, and malignant growths by complete excision of the gland. To wait for the "cardinal signs" of the text-books was to wait usually until the time for probable perfect cure had gone by. When cancers came to be treated at their very beginning, the school of ancient pathologists, who held that

cancer always killed whether it was operated on or not, would cease to exist. Few operations were more imperfectly performed than that of breast excision. Too little attention was paid to what were apt to be regarded as details, and to these Mr. Lloyd referred at length. The incisions through the skin should be made solely with regard to the tumour, and secondarily with reference to the nipple. Skin and fat and fascia over the pectorals must be removed freely. The axilla should always be examined through the wound, and all its contents thoroughly removed when glands are found to be enlarged. The best way to avoid wounding the axillary vein was to carry an incision across the axilla and find the vein first on the outer part of the space. The cases where glands are adherent to vein, so as to call for vein excision, had better be left alone altogether. They can be diagnosed, as a rule, before operation. The death-rate of breast-excision was higher than it ought to be. Mr. Lloyd had operated on 49 consecutive cases without a death, and in 26 of these the axilla was cleared. Permanent recoveries, according to Dr. Gross, amount to eleven per cent. Mr. Lloyd had found it impossible to trace many of his cases, but he knew of several patients who were alive five years after operation.

Mr. Whitcombe thought that cases would not be seen early until the public were more enlightened on the matter of cancer.

Mr. Bennett May spoke of the importance of certain points in the operation which are often regarded as useless details. In some breast tumours difficulty of accurate diagnosis will always be met with, particularly in that variety of cancer which infiltrates the gland tissue in such manner that it does not give rise to a circumscribed swelling at all.

Dr. Malins referred to the occasional difficulty in discriminating between malignant and non-malignant cases. He thought that heredity exerted a greater influence than Mr. Lloyd assigned to it.

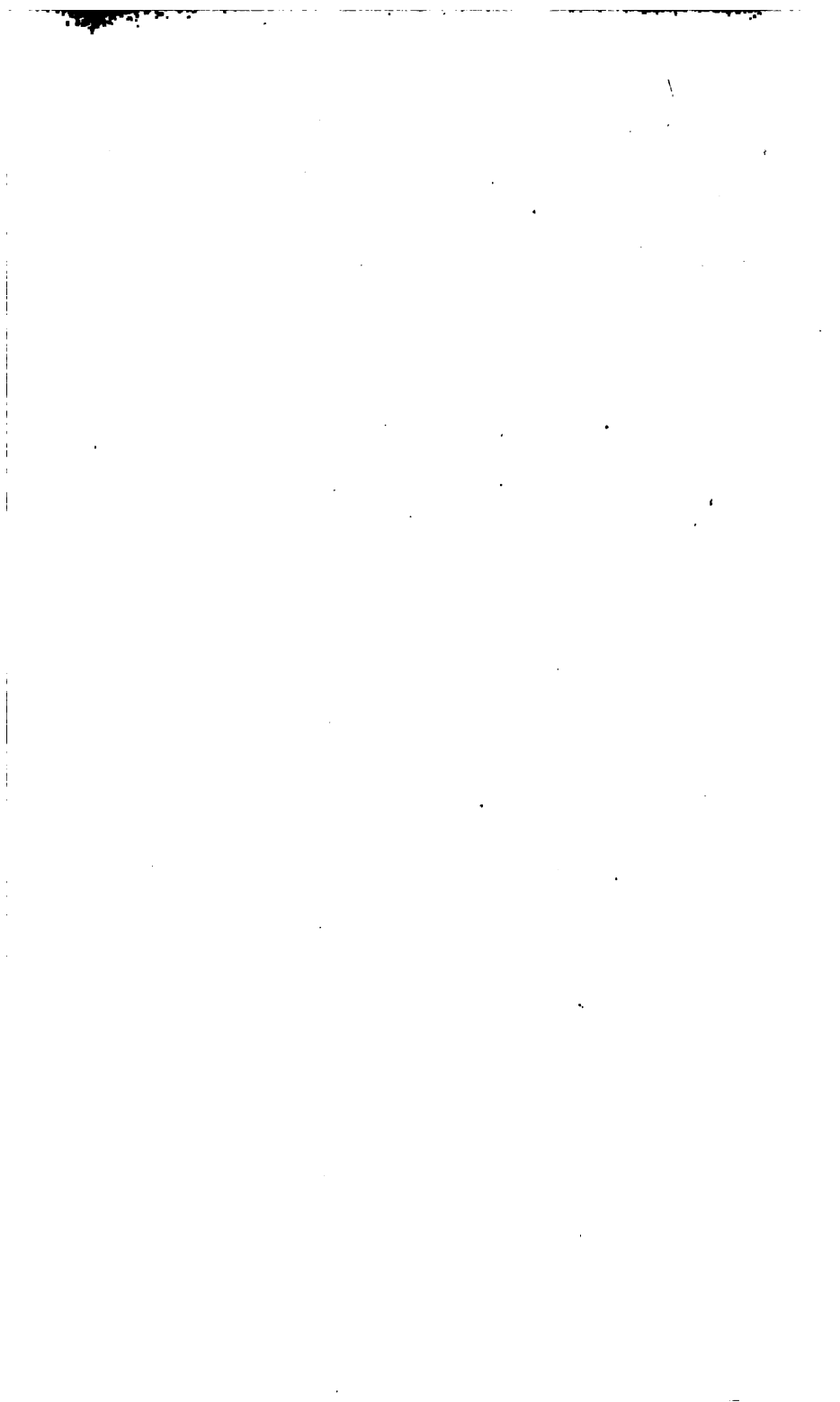
Mr. Barling had never seen a fibroma in the breast, and he had examined large numbers of tumours. He referred to the evil influence exerted by a belief in the constitutional origin of cancer.

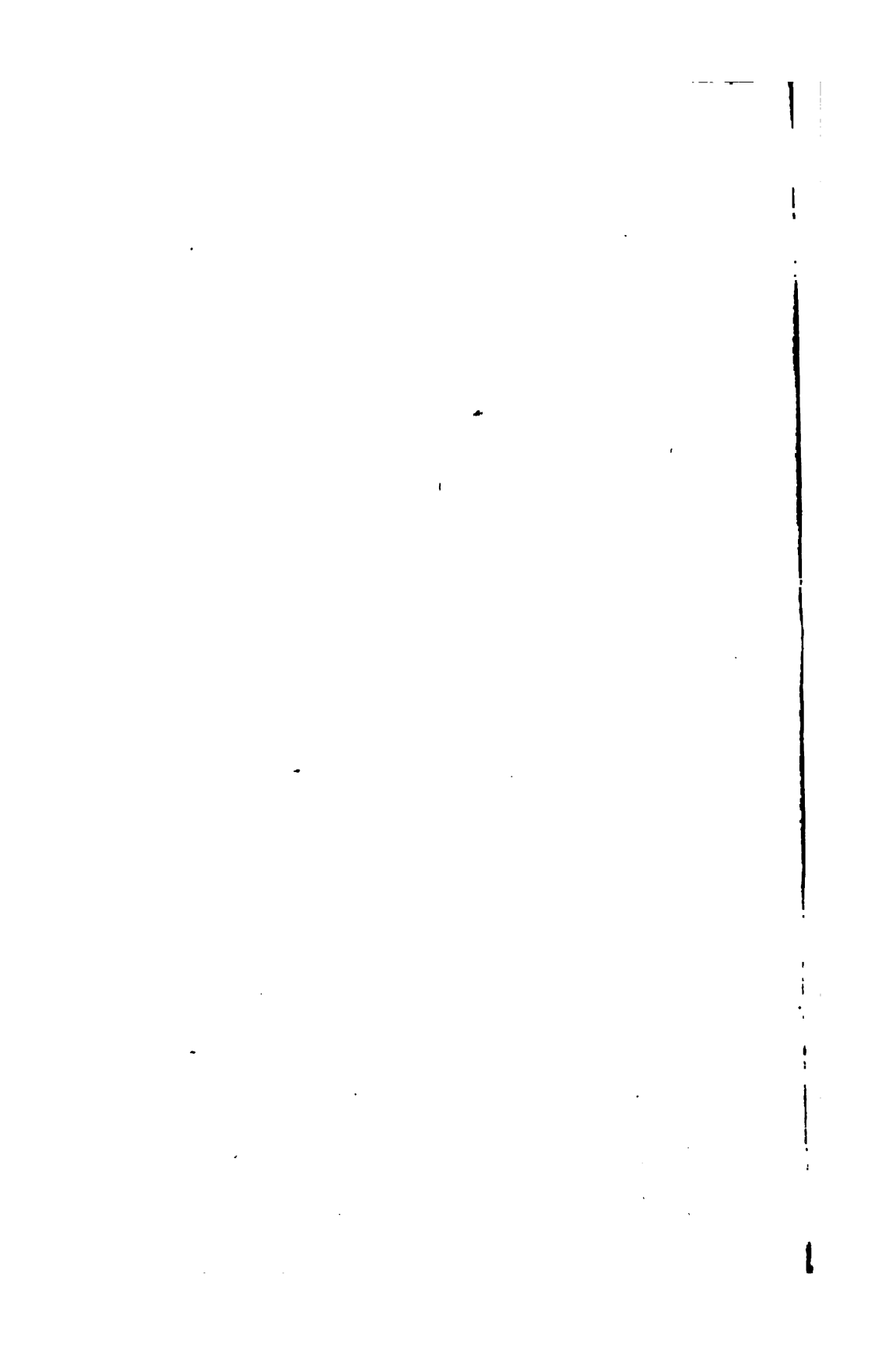
Mr. A. Oakes referred to the importance of the subject to general practitioners, and reminded the author of the paper that "too late" diagnosis was often due to the patients' neglect in consulting a doctor.

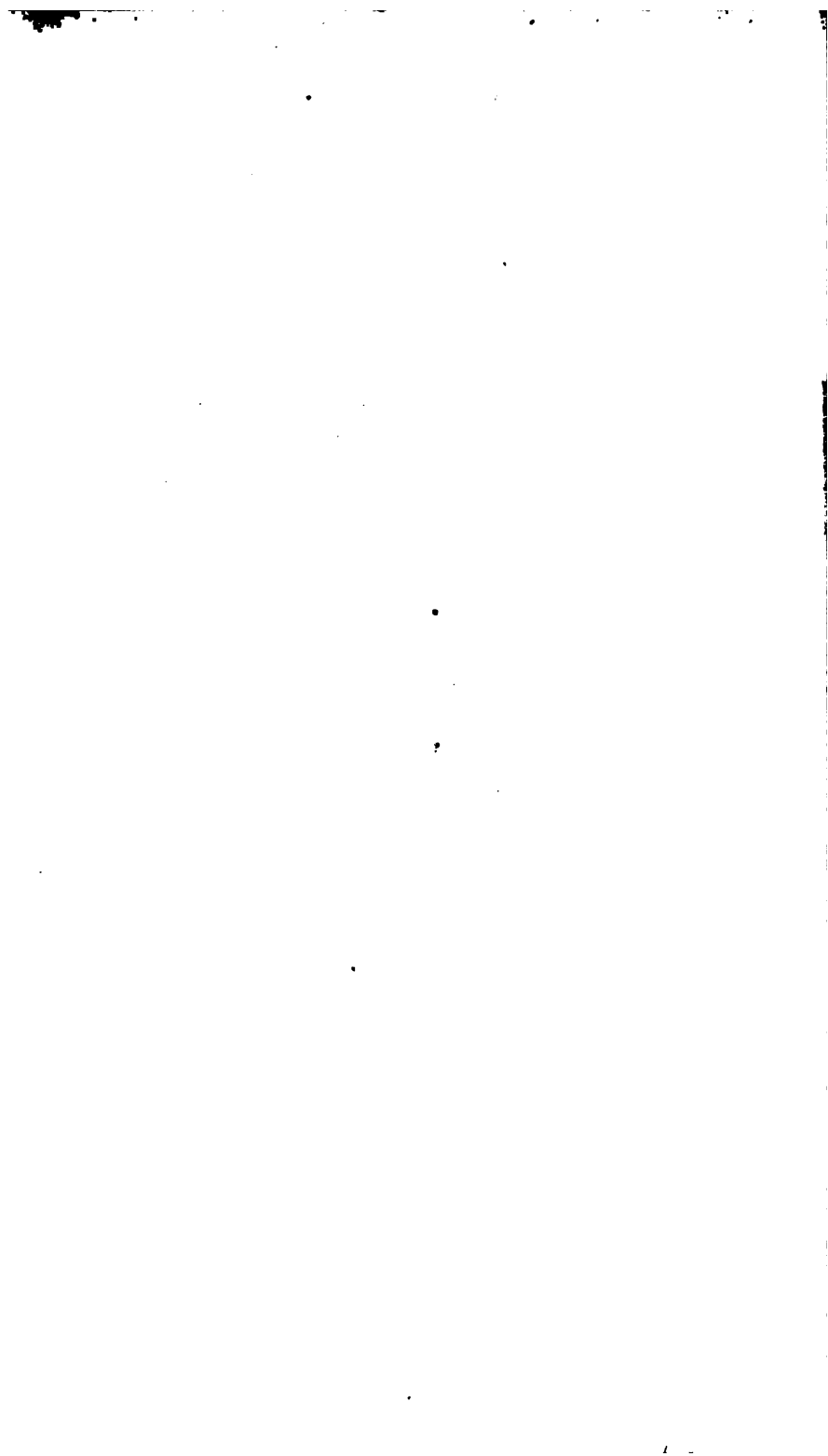
Mr. Lloyd briefly replied, and the meeting terminated.

New Books, etc., Received.

- Epitome of Diseases and Injuries of the Ear. By W. R. H. STEWART, F.R.C.S., L.R.C.P. Ed., Aural Surgeon to the Great Northern Central Hospital, etc. London : H. K. Lewis. 1888.
- Section Cutting and Staining : A Practical Guide to the Preparation of Normal and Morbid Histological Specimens. By WALTER S. COLMAN, M.B. Lond. London : H. K. Lewis. 1888.
- A Handbook of Surface Anatomy and Landmarks. By BERTRAM C. WINDLE, M.A., M.D. Dublin, Professor of Anatomy in Queen's College, Birmingham. London : H. K. Lewis. 1888.
- Illustrated Lectures on Ambulance Work. By R. LAWTON ROBERTS, M.D. Third Edition. London : H. K. Lewis. 1888.
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